



CITY OF LODI

COUNCIL COMMUNICATION

AGENDA TITLE: Postpone Public Hearing to Consider Increasing Water Rates

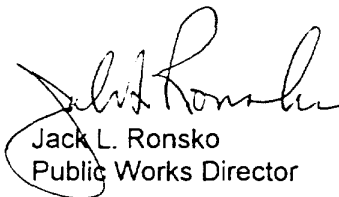
MEETING DATE: June 5, 1996

PREPARED BY: Public Works Director

RECOMMENDED ACTION: That the City Council postpone indefinitely the public hearing on water rate increases.

BACKGROUND INFORMATION: Based on comments from members of the Chamber of Commerce and internal discussions, staff has not prepared a complete package for this scheduled public hearing. Staff is recommending another course of action under a separate Consent Calendar item, *Authorize Water Utility Analysis*, on the June 5, 1996 Council agenda.

FUNDING: Not applicable.



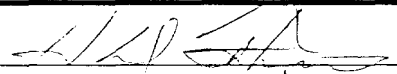
Jack L. Ronsko
Public Works Director

Prepared by Richard C. Prima, Jr., City Engineer

JLR/RCP/lm

cc: Water/Wastewater Superintendent
Electric Utility Director

APPROVED: _____



H. Dixon Flynn -- City Manager



CITY OF LODI

Carnegie Forum
305 West Pine Street, Lodi

NOTICE OF PUBLIC HEARING

Date: June 5, 1996

Time: 7:00 p.m.

For information regarding this notice please contact:

Jennifer M. Perrin

City Clerk

Telephone: (209) 333-6702

NOTICE OF CONTINUED PUBLIC HEARING

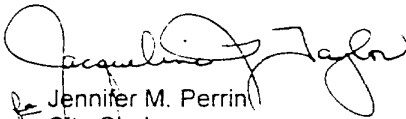
NOTICE IS HEREBY GIVEN that on **Wednesday, June 5, 1996** at the hour of 7:00 p.m., or as soon thereafter as the matter may be heard, the City Council will conduct a continued Public Hearing at the Carnegie Forum, 305 West Pine Street, Lodi, to consider the following matter:

- a) Increasing water rates

All interested persons are invited to present their views and comments on this matter. Written statements may be filed with the City Clerk at any time prior to the hearing scheduled herein, and oral statements may be made at said hearing.

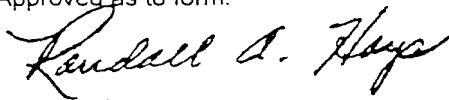
If you challenge the subject matter in court, you may be limited to raising only those issues you or someone else raised at the Public Hearing described in this notice or in written correspondence delivered to the City Clerk, P.O. Box 3006, at or prior to the Public Hearing.

By Order of the Lodi City Council:


Jennifer M. Perrin
City Clerk

Dated: May 15, 1996

Approved as to form:



Randall A. Hays
City Attorney



MEMORANDUM, City of Lodi, Public Works Department

To: City Manager
City Council
City Attorney
City Clerk ✓

From: Public Works Director

Date: May 14, 1996

Subject: Public Hearing for Water Rate Increase

The public hearing for the water rate increase discussion is scheduled for the Council meeting of June 5, 1996.

Because of the amount of background material we are providing the Council on this item, we are forwarding this packet to you early. This packet includes Appendixes I through VI. As indicated in the Council Communication, the appendix is only being provided to the City Council; however, copies of this material is available at the Public Works Administration office.

The Council packet for the June 5 meeting will again include the Council Communication and exhibits; however, the appendix will not be included at that time. Therefore, you may want to save the appendix which is part of this submittal.

If you have any questions concerning this material, please contact me.

A handwritten signature in black ink, appearing to read "Jack L. Ronsko", is written over a circular stamp.

Jack L. Ronsko
Public Works Director

JLR/m

attachments

cc: Water/Wastewater Superintendent



CITY OF LODI

COUNCIL COMMUNICATION

AGENDA TITLE: Public Hearing to Consider Increasing Water Rates Effective July 1, 1996

MEETING DATE: June 5, 1996

PREPARED BY: Public Works Director

DRAFT

RECOMMENDED ACTION: That the City Council conduct a public hearing on the recommended water rate increases described in this Council Communication and adopt the attached resolution approving an increase in water rates of 15%, and authorize the City Manager to amend the wastewater rate analysis contract with Bartle Wells Associates to include a water rate analysis.

BACKGROUND INFORMATION: The condition and needs of the City's water system have been reported to the City Council and to the public in a series of Council meetings, written reports and public notifications over the past three years. Shown below is a list of these meetings, reports and notifications. These items are being provided to the Council as a separate appendix.

Date	Item	Appendix Number
March 16, 1993	Town Meeting Report/Presentation <i>Presentation was made to show the need and importance of providing for system replacement for all of the systems and equipment maintained by the Public Works Department.</i>	I
November 30, 1993 and December 7, 1993	November 1993 Water Utility Status Report <i>Presented to Council at these Shirtsleeve Sessions. This comprehensive report outlines the condition and specific needs of the City's water system and the rate of increases that would provide for these deficiencies.</i>	II
April 1994	Annual Water Quality Report for 1993 <i>This State-required annual report was sent to all of our water customers. On Page 2 was a 1-page recap of the November 1993 Water Utility Status Report entitled "(How Much) Should Your Water Rates Be Increased?"</i>	III

APPROVED: _____

H. Dixon Flynn -- City Manager

March 7, 1995	Memorandum discussing water rate adjustments and DBCP update <i>At this Shirtsleeve Session, staff again discussed with the City Council the contents of the November 1993 Water Utility Status Report and approach on possible rate increases.</i>	II
April 5, 1995	Council Communication discussing water rate analysis <i>This document outlined different methods of obtaining analysis of water rates.</i>	IV
April 19, 1995	Council Communication for public hearing on water rate increases <i>This document summarized the need for a major water rate increase (74%), recommended a general 22% increase on flat rates and that a rate analysis be done to plan subsequent rate increases starting in 1996. Council approved a 17.7% increase.</i>	V
June 1995	Annual Water Quality Report for 1994 <i>This annual State report was sent to all of our water customers. On Page 2 was an article entitled "About the Recent Water Rate Increase". This article emphasized that more increases will be needed in order to keep pace with water-quality regulations, inflation, and other water system needs.</i>	VI

Rate Increase History

In the last 30 years, the City of Lodi has had only four water rate increases with the last one taking effect June 1, 1995. The City has not routinely adjusted rates for inflation or for replacement of equipment and infrastructure, thus, we have fallen behind in this regard. The bottom line is that the City of Lodi needs to put more money into its water utility. The older pipes in the City's water system need to be replaced on a regular basis. Regular replacement of other major facilities (i.e., wells, generators, valves, fire hydrants) are also needed and should be undertaken on something other than an emergency basis.

Prior discussions with the City Council have indicated that increases were needed to ensure compliance with Federal and State drinking water standards for DBCP. Compliance with the DBCP water-quality regulations is currently underway. It appears the City may be partially reimbursed for costs related to DBCP compliance under a lawsuit the City has with DBCP manufacturers and suppliers.

While some of the City's DBCP costs may be reimbursed, the City now has a new water-quality problem to deal with—PCE/TCE contamination—which will cost even more than the DBCP contamination. This new contamination has been documented by the State Department of Toxic Substance Control (DTSC) and the City's cost of cleanup could range anywhere from \$15 to \$65 million. Assuming the cleanup could be accomplished at the very lowest estimate, this would require a 30% increase in water rates just to take care of this new groundwater contamination problem.

In addition to the future PCE/TCE cleanup costs, the City must still consider the following increases to bring our water system up to a reasonable standard:

Project or Program	Rate Increase Required
System replacement	21%
Well and pumping equipment replacement	4%
Standby generator replacement	5%
Valve maintenance	1%
Total	31%

Even if we assume that last year's entire 17.7% increase is not needed for DBCP and it is used toward the above deficiencies, there is still approximately a 13% increase needed **without taking into account** our PCE/TCE contamination problem (minimum 30% increase).

Rate Increase and Rate Study Issues

We feel it is clear the main issues are "how much" and "when".

At the last public hearing on water rate increases, the larger industrial water users made it clear they would prefer smaller annual rate increases rather than larger infrequent lump-sum increases as the City has done in the past. Smaller increases can be absorbed as part of normal inflation estimates, while large increases can attract unwanted "attention" at corporate headquarters.

A secondary issue has to do with the relationship between our metered rates (which affect all industrial and the majority of our commercial customers) and our flat rates.

Starting in January 1992, in conformance with Senate Bill 229, the City began collecting funds for water meters and their installation for all new water services. We presently have collected approximately \$117,000 and have a commitment to install 670 residential meters. We are committed to install these meters as soon as the City develops a metered rate for residential customers. This metered rate for residential customers was to be developed as part of the City's next water rate study. This will require a detailed evaluation. Ultimately, the State of California is going to require that water purveyors meter all water customers. Having all water customers metered is the most equitable way to reward water customers for their conservation efforts and to charge those who waste water. Meters will also reduce water production requirements and capital expenditures for new wells.

Therefore, as part of the next water rate analysis, the City may also want to look at alternative ways of obtaining meters on all unmetered services. For example:

1. Establish a flat rate which is considerably higher than the metered rate for residential thus providing an incentive for customers to request that meters be installed on their service at their cost. (Refer to City of Escalon on attached Exhibit A.)
2. Charge flat-rate customers an additional amount per month to pay for a future retrofit meter program. (Refer to City of Davis on attached Exhibit A.)
3. Require water meter installation as a condition of any sale of property.

In addition to a detailed evaluation of residential flat-rate and metered-rate customers, there are many other areas which a water rate study should include. They are shown on the attached Exhibit B. Based on the experience of Bartle Wells Associates, the firm doing the City's wastewater rate study, it would make sense to have them do the water rate study concurrently with the wastewater study.

\$15,000 is budgeted for the water rate study. Electric Utility Rates and Resources Division staff are participating in the wastewater study in order that future rate analyses may be accomplished by the Electric Utility Department. This same procedure could be used on any future water rate study that would be undertaken.

Rate Comparison

Exhibit A is an updated water rate survey dated April 1996. In addition to updating the actual water rates, we have included all cities within the County and have also confirmed which agencies have a utility user tax. That tax, for the water bill only, was added to the monthly water costs shown for a typical residence.

This survey shows (for all flat-rate water charges) Lodi is still approximately 22% below the average. If you compare Lodi's residential rate to that paid in cities within San Joaquin County, Lodi's residential rate is 67% below the average of these adjacent cities. (Refer to Exhibit C.) Lodi's water charge (\$0.296 per 100 cubic feet) is over 116% below the average of all of the cities. (Refer to Exhibit D.) If you compare Lodi's water charge (\$0.296 per 100 cubic feet) to that paid in cities within San Joaquin County, Lodi's water charge is 129% below the average. (Refer to Exhibit E.)

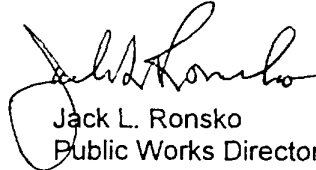
Listed below are the effects of possible increases on a 2-, 3-, or 4-bedroom residence:

	2 BEDROOMS	3 BEDROOMS	4 BEDROOMS
CURRENT MONTHLY FLAT RATE	\$10.38	\$12.45	\$14.95
Possible Increases			
10% increase: Total	\$11.42	\$13.70	\$16.45
(Increase)	(\$1.04)	(\$1.25)	(\$1.50)
15% increase: Total	\$11.94	\$14.32	\$17.19
(Increase)	(\$1.56)	(\$1.87)	(\$2.24)
20% increase: Total	\$12.46	\$14.94	\$17.94
(Increase)	(\$2.08)	(\$2.49)	(\$2.99)

RECOMMENDED ACTION: Based on the above data, we are recommending that the City Council approve a 15% immediate increase and expand the tasks of the consultant doing the wastewater rate study to include a water rate study.

The Lodi Municipal Code (LMC §13.08.010) provides for water rates to be set by resolution. The attached resolution is written with the appropriate "blank" to be filled in depending on what action is decided by the Council.

FUNDING: Funding for the water rate study is budgeted under 18-451.01-323.



Jack L. Ronsko
Public Works Director

JLR/lm

Attachments

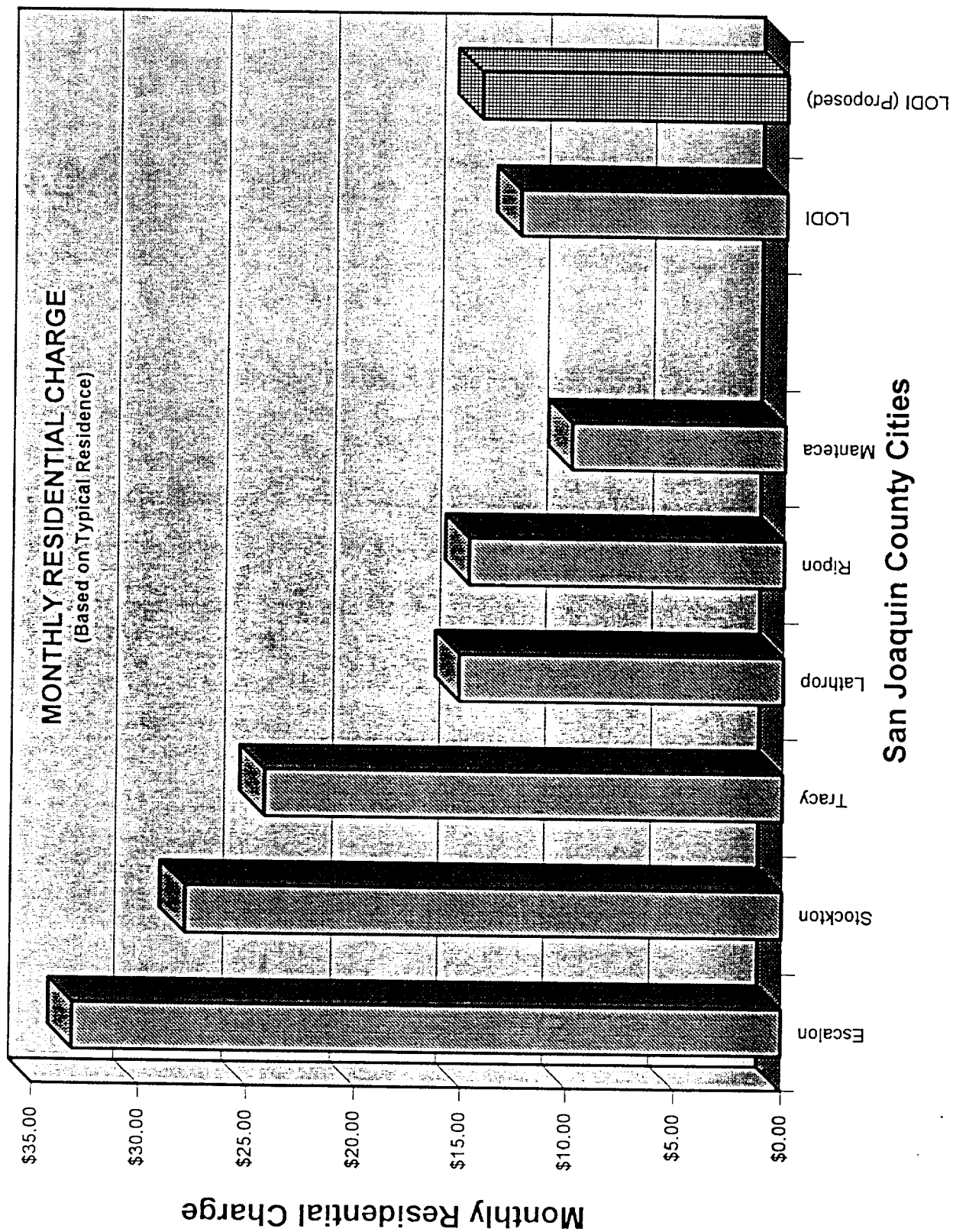
cc: City Attorney
City Engineer
Electric Utility Director
Water/Wastewater Superintendent

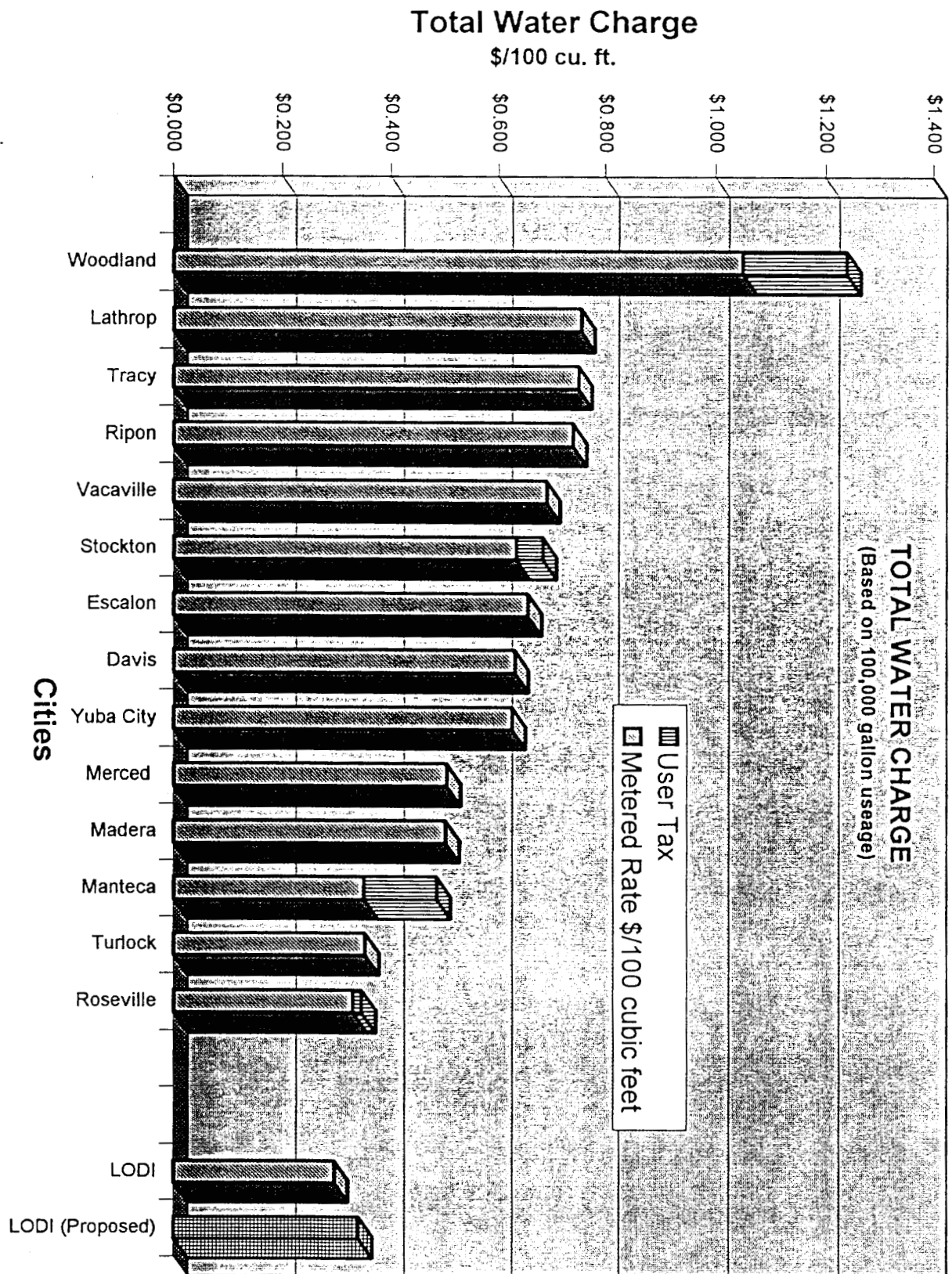
City	Base Charge	Water Charge	Total for typical residence	Comments
Davis				
Flat Rate	\$14.08 /mo.	n/a	\$14.08 /mo.	\$5.00 plus \$0.0012473 per square foot lot plus \$2.84 to retrofit meter.
Metered	\$11.23 /mo.	\$0.63 /100 cu. ft.	\$23.86 /mo.	Water charge increases to \$0.68/100 cu. ft. for amount over winter use "base line".
Escalon				
Flat Rate	\$33.09 /mo.	n/a	\$33.09 /mo.	flat rate includes \$10.98 "Ready to serve" charge
Metered	\$10.98 /mo.	\$0.7961 /1000 gal. \$0.5955 /100 cu. ft.	\$22.92 /mo.	\$0.8757/1,000 gal. for amount over 50,000 gal.
Lathrop				
Metered	\$10.14 /mo.	\$1.01 /1000 gal. \$0.7555/100 cu. ft.	\$15.19 /mo.	Base charge includes first 10,000 gal.
Madera				
Flat Rate	\$9.50 /mo.	n/a	\$9.50 /mo.	Increases \$0.11 per additional front foot.
Metered	\$12.67 /mo.	\$0.67 /1000 gal. \$0.501 /100 cu. ft.	\$12.67 /mo.	Base charge includes first 15,000 gal.
Manteca				
Metered	\$7.15 /mo.	\$0.35 /100 cu. ft.	\$9.93* /mo.	for 5/8x3/4 meter; for 1", base charge is \$10.75/mo.; water charge is \$0.60/100 cu. ft. for amount over 30,000 cu. ft. (Base incl. first 2,000 cu. ft.) 38.5% user tax.
Merced				
Flat Rate	\$14.34 /mo.	n/a	\$14.34 /mo.	\$14.34 for first 10,000 SF, per table up to \$39.90 for 46,000 SF
Metered	\$17.78 /mo.	\$0.504 /100 cu. ft.	\$17.78 /mo.	Base charge includes water allowance up to amount under quantity rate (26,390 gal. for 3/4").
Ripon				
Flat Rate	\$14.75 /mo.	n/a	\$14.75 /mo.	Lot size up to 14,375 SF.
Metered	\$11.00 /mo.	\$0.74 /100 cu. ft.	\$14.74 /mo.	Base charge includes first 1,500 cu. ft.
Roseville				
Flat Rate	\$10.80 /mo.	n/a	\$11.34* /mo.	For single family lot between 4,901 and 8,900 SF; per table for other sizes
Metered	\$8.25 /mo.	\$0.33 /100 cu. ft.	\$12.15* /mo.	First 1,000 cu. ft. in base charge; rate increases over 5,000 cu. ft. (37,400 gal.) plus 5% user tax.
Stockton (City)				
Metered	\$13.13 /mo.	\$0.633 /100 cu. ft.	\$27.89* /mo.	\$0.539/100 cu. ft. for amount over 30,000 cu. ft. plus 8% user tax.
Tracy				
Metered	\$8.60 /mo.	\$0.75 /100 cu. ft.	\$24.26 /mo.	Water charge increases to \$1.05 over 1,200 winter/1,800 summer cu. ft., \$1.20 over 1,900w/2,900s cu. ft., \$1.30 over 19,000w/28,000s cu. ft. and decreases to \$0.56 over 1,000,000 cu. ft.
Turlock				
Flat Rate	\$13.45 /mo.	n/a	\$13.45 /mo.	\$7.05 for 0 to 5 rooms, \$7.90 for 6-8, \$8.70 over 8 plus charge based on parcel area (\$5.55 up to 5,500 SF, \$0.85 for each add'l 2000 SF)
Metered	\$9.45 /mo.	\$0.47 /1000 gal. \$0.3516/100 cu. ft.	\$16.50 /mo.	Water charge decreases to \$0.40 over 50,000 gal., \$0.17 over 150,000 gal.
Vacaville				
Metered	\$7.62 /mo.	\$0.69 /100 cu. ft.	\$23.79 /mo.	Water charge increases to \$0.98 over 1,200 cu. ft. 15% discount for senior citizens on base and consumption charge.
Woodland				
Flat Rate	\$7.45 /mo.	n/a	\$8.79* /mo.	For single family lot 5,000 to 10,000 SF; \$6.10 under 5,000 SF, \$9.10 over 10,000 SF (18% user tax reviewed every other year.)
Metered	\$3.90 /mo.	\$1.05 /100 cu. ft.	\$29.45* /mo.	
Yuba City				
Flat Rate	\$18.75 /mo.	n/a	\$18.75 /mo.	
Metered	\$10.00 /mo.	\$0.625 /100 cu. ft.	\$12.53 /mo.	Includes 1,600 cu. ft. minimum quantity
Average				
Flat Rate	\$15.13 /mo.	n/a	\$15.34 /mo.	
Metered	\$10.14 /mo.	\$0.608 /100 cu. ft.	\$18.83 /mo.	rates per 1000 gal. adjusted to 100 cu. ft.
Lodi				
Flat Rate	\$12.45 /mo.	n/a	\$12.45 /mo.	ranges from \$8.65 for 1 bedroom to \$25.84 for 7 br's.
Metered	\$11.43 /mo.	\$0.296 /100 cu. ft.	\$17.37 /mo.	Base charge does not include any water allowance.

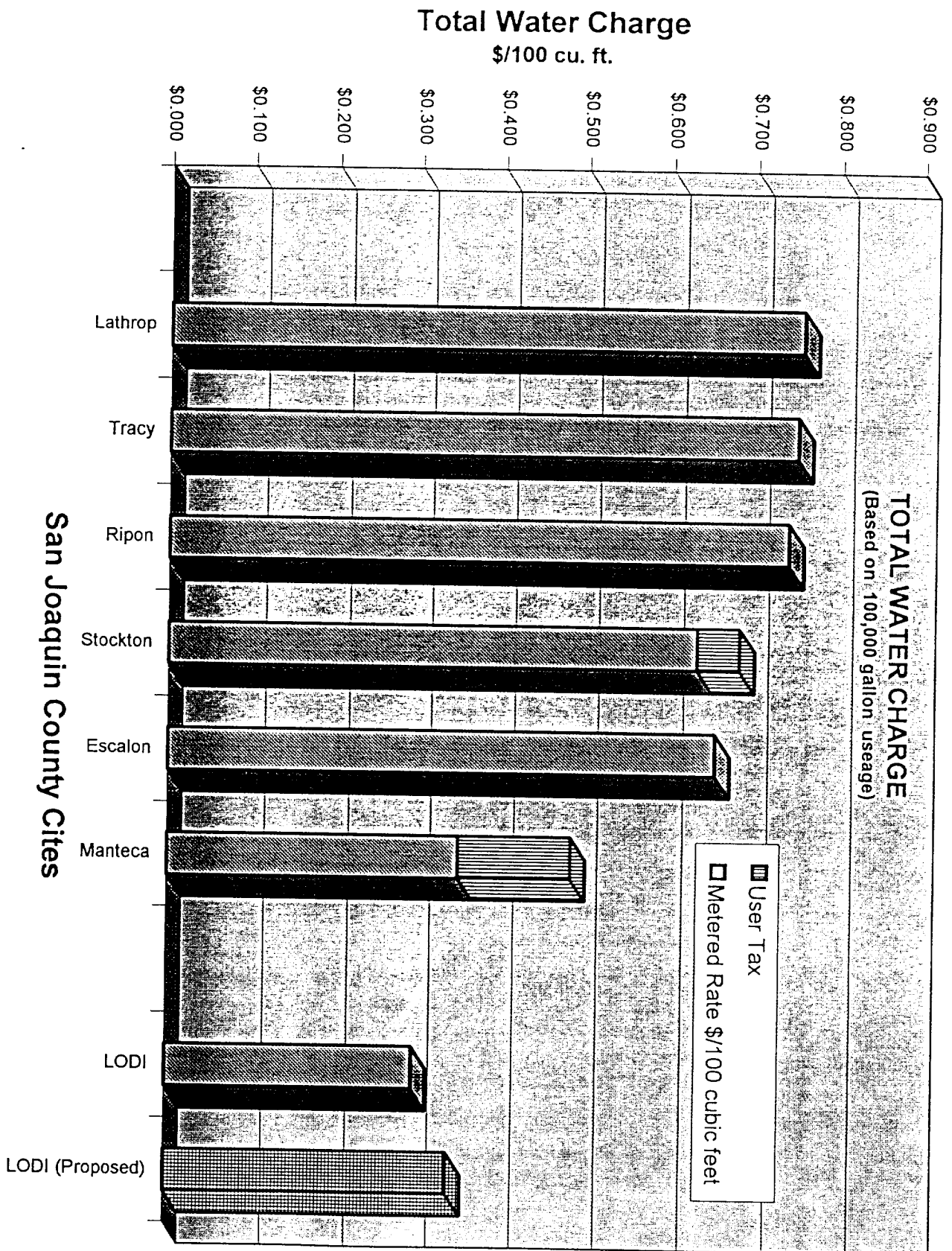
Typical Residence Criteria:	Units (agency affected)
Water Use:	15,000 gallons/month (2,005 cu. ft.)
Parcel Area:	5,000 square feet (Davis, Merced, Roseville, Woodland)
Meter Size:	3/4" size of service pipe is typically 1" minimum, meter is usually smaller
Rooms:	6 number (Turlock)
Bedrooms:	3 number (Lodi)
Lot Frontage:	50 feet (Madera)
":	user tax added

**AREAS TO BE EVALUATED
UNDER
WATER RATE STUDY**

- 1) Revenue requirements - cash needs approach vs. Utility approach
- 2) Revenue requirement projections
- 3) Miscellaneous operating revenue projections
- 4) Non-operating revenue projections
- 5) Cost allocation - base/extra capacity method vs. commodity-demand method
- 6) Current and short-term financial conditions of water utility
- 7) Future cost projections - operations and maintenance, capital, other costs
- 8) Inside City/outside City service cost allocation
- 9) Establish customer classes
- 10) Special customer classes - fire service, wholesale, irrigation, other
- 11) Units of service - meter size, demand rates
- 12) Establish unit costs
- 13) Distribute costs to customer classes
- 14) Block rates - single vs. declining vs. inverted
- 15) Rate adjustment options - customer acceptance, revenue lag
- 16) Seasonal, peak period rates
- 17) Conservation issues
- 18) Flat rates - equity with metered rates
- 19) Fire service rates
- 20) Lifeline rates
- 21) Connection charges
- 22) New capacity charges (impact fees)
- 23) Miscellaneous service charges such as turn on/off, construction water
- 24) Unauthorized water use charges
- 25) Cross connection/backflow device charges
- 26) Develop computer rate model to simplify future updates
- 27) Rate options/analysis and projections
- 28) Public education and input process - throughout above steps
- 29) Public presentation and Council action







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<u>APPENDIX NUMBER</u>	<u>ITEM</u>
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II	November 1993 Water Utility Status Report
III	Annual Water Quality Report for 1993
IV	Council Communication discussing water rate analysis
V	Council Communication for public hearing on water rate increases
VI	Annual Water Quality Report for 1994

The above items are being supplied only to the City Council. They are available for review at the Public Works Department's administrative office.

APPENDIX I

faced with considering additional privatization, I wanted the Council to be aware of some of the considerations our Department has used in evaluating the advantages and disadvantages of contracting out.

5-Year Budget and Staffing

As part of the description of responsibilities for each Division, we have included the Division's budget amount and the number of full-time authorized positions over the past five fiscal years. We have also provided an explanation of the major increases and decreases in the budget amounts shown.

Training

In 1992/93, the Public Works Department reduced its budget for training, workshops and conferences by almost 40%. With the exception of a 25% reduction in general Departmental training, I am not proposing any further training reductions. I feel very strongly that, as the work force is decreased and we are asked to take on additional responsibilities, proper training becomes even more important to the Department's operation.

Facility Maintenance

The allocation of funds for preventative maintenance programs and general maintenance for the facilities we maintain is especially important during the times of tight budgets and financial shortfalls. CUTTING BACK ON MAINTENANCE IS NOT A PRUDENT WAY TO SAVE MONEY. If proper maintenance is not provided, the long-term costs of repairing or rebuilding facilities appreciably increases. The City has major investments in the following facilities, systems and plants maintained by the Public Works Department:

<u>City Facility, System, or Plant</u>	<u>Approximate Replacement Value</u>
Street System	\$ 70,000,000
Storm System	\$ 25,000,000
Sanitary System	\$ 50,000,000
Treatment Plant	\$ 40,000,000
Water System	\$ 50,000,000
Vehicles and Equipment	\$ 5,000,000 *
Buildings	\$ 20,000,000 *
TOTAL	\$260,000,000

*This includes only the equipment and buildings being maintained by the Public Works Department and does not include buildings such as Hutchins Street Square, Parks and Recreation, Library, and the larger Fire apparatus.

Since the City is not currently receiving or putting funds aside for equipment or facility replacement, except in Streets and for the treatment plant, the maintenance of our

facilities is even more important. A reasonable design life for the facilities shown above would be 50 years. Even if we said the facilities would last 100 years (and most of them will not), the City should be putting approximately 2.5 million dollars aside each year for facility replacement. We must evaluate how we're going to replace these facilities in the future.

Comparable Staffing


In prior years, we have evaluated the staffing of other agencies for street maintenance and equipment maintenance and have determined what would be reasonable levels of service. Our Department had not previously looked at administrative and clerical support, engineering or water and wastewater. The comparable staffing evaluations we recently completed in these other areas were very enlightening and we found that Lodi is using less staff than comparable cities to perform the same functions. The City Council should feel good about the high quality of service we provide the citizens with staffing that is less than most other comparable agencies. I don't believe there is any question that, in Lodi, the citizens are getting their money's worth.

Cost Reductions and Revenue Enhancements

Under each of the Divisions, we have recommended some possible cost reductions and revenue enhancements. With the exception of the Water/Wastewater enterprise funds, the amounts shown would have a direct effect on the City's General Fund and could be used to help balance the 1993/94 operating budget. It is felt that any savings or revenue enhancements made in Water/Wastewater should remain in those enterprise accounts to provide for some of the deficiencies that presently exist; i.e., system replacement, reasonable reserves, system upgrades, etc.

We have recommended that a number of additional revenue enhancements be considered. Of those recommended, approximately \$400,000 is simply charging out full overhead to all non-General Fund accounts. Full overhead would include not only the appropriate overhead in the Public Works Department, but also the full administrative overhead of the City Manager's office, City Attorney, City Council, etc. If we are to truly compete with private industry and evaluate additional privatization, it is important that we operate the City as a business and charge the full cost of its operation.

The Public Works Department is looking forward to presenting this material to the City Council on March 23 and 24 and answering any questions the Council and citizens may have.


Jack L. Ronsko
Public Works Director

JLR/lm

attachment

APPENDIX II



City of Lodi

City of Lodi
Water Utility Status Report

Public Works Department

November 1993



Water Utility Status Report

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Water Utility Status Report

Introduction

One of the actions adopted by the City Council as part of the 1993/94 Capital Improvement Program was to "Direct staff to prepare a comprehensive report on the status of the water utility, addressing long term capital and operating needs and funding." Thus, this report is intended to provide the necessary information to the City Council and the citizens of Lodi to establish a level of maintenance and financial stability for the water utility to the end of this decade. The report presents historical information and a description of the water system and follows with separate sections on various system components and their specific needs. Revenue and expense history and general projections are also presented. Some of the expenses are due to State and Federal mandates and will have to be recovered through rate increases. Other major expenses will be the result of policy decisions by the Council on replacement of older parts of the water system and water meter retrofits. Finally, the financial condition of the water fund is presented. The bottom line is the water utility fund will be out of money this fiscal year. Hopefully, the report will show that some level of rate increase is justified. However, in order to quantify and plan any rate increases, a number of decisions must be made. These are presented at the end of the report. In addition, water rates and methodologies are discussed. Public input and Council discussion and direction are needed to provide staff with the information needed to prepare a more accurate and detailed water rate and system improvement plan for Council consideration.

System Overview

The water system was originally acquired along with the electric system in the early 1900's when the City was incorporated. In fact, this acquisition was one of the main reasons for incorporation. Until the 1960's the system was operated under the Electric Utility Department. Early system expansions and improvements were generally made by City employees. With rapid growth following World War II, system operation was gradually converted to the Public Works Department and system expansions to the private sector.

Presently the City water utility consists of wells, an interconnected distribution system, water services (some with meters), one elevated water tank, a portion of the Municipal Service Center (MSC) facilities, various pieces of equipment and the equivalent of ten full time employees. The system is operated by the Water/Wastewater Division of the Public Works Department which also operates the wastewater collection and treatment system. Many of the employees and equipment of the Division are shared by the two utilities. In addition, the Division receives administrative, electrical maintenance, dispatch, financial, legal and engineering support from other Public Works

Divisions and City Departments. However, each utility is funded separately and various management and accounting methods are used to keep costs properly allocated to the appropriate utility. Traditionally all the City's utilities make money and provide substantial support to the General Fund.

The system presently consists of 23 wells and 196 miles of distribution mains. A schematic map of existing and future well locations is shown in Exhibit 1. Future wells to accommodate growth are planned for the northern and central parts of the City in order to minimize the need for treatment units to remove dibromochloropropane (DBCP) to meet State and Federal drinking water standards. However, system hydraulics and the need for fire protection flows dictate that some sources of supply must be located in all parts of the City. As discussed later in the report, future improvements to accommodate growth are to be funded from the Water Development Impact Mitigation Fee fund.

One-third of the existing wells are over 20 years old and will need to be replaced eventually. Certain site constraints require that many replacement wells have to be built at new locations. The oldest part of the distribution system consists of 4", 6" and 8" cast iron and 2" steel mains. During the 1930's, an early type of asbestos-cement (AC) pipe¹ was commonly used in the 3" and 6" sizes. During the 1940's there was relatively little expansion of the system, however, we have found that a variety of odd size and types of materials were used in that period. Most of the system installed in the 1950's through 70's was modern AC pipe. Most recently, polyvinyl chloride (PVC) pipe has been used almost exclusively. Ductile iron, a form of cast iron, is also used under certain circumstances. The elevated tank is less than five years old and is in excellent condition. Well and water main replacement issues are discussed in later sections of this report.

There are other long term issues that will have a financial impact on the water utility. These include future water quality standards such as radon and arsenic and regular disinfection of the system. In the long run, water supply (groundwater vs. surface water) may be an issue. Given the speculative nature of these issues and the relatively near term focus of this report, they are not discussed or analyzed at length.

Water Treatment Needs

Until recently, the water produced by City wells needed no treatment. Recent changes in Federal and State water quality standards have changed this situation. The City has struggled to delay or put off the State mandate to remove trace amounts of DBCP found in the water. In working with the State on amending the City's drinking water permit, the City has secured a 20 year State bond fund loan of just under \$5,000,000 at 3.41% interest to fund DBCP treatment capital

¹ Asbestos cement pipe used to convey drinking water should not be confused with other products containing asbestos fibers which could be inhaled into the lungs. The Environmental Protection Agency (EPA) moved to ban the manufacture of AC pipe due to estimated health hazards to workers, however this ban was overturned in the courts. There has been no significant concern over the actual use of this type of pipe for conveying drinking water.

improvements. While we have worked on reducing demand and a special pumping schedule to put off the majority of these improvements, over \$600,000 has been spent on one granulated activated carbon (GAC) filter and design for additional filters. An additional \$300,000 has been spent on testing, studies, loan interest and legal work.

Repayment of the loan proceeds received to date will mean an additional annual expenditure of \$51,000 beginning in 1994/95. If the full amount of the loan was borrowed, the payment would increase to approximately \$340,000 annually. In addition, the filters would substantially increase operating and maintenance costs for routine operating checks, water quality monitoring and carbon replacement. (The existing filter contains 66,000 pounds of activated carbon! Replacing and disposing of the carbon is estimated to cost at least \$1.00 per pound every three years².) The actual cost converted to an annual basis will depend on how long the GAC filters can actually go between carbon replacements. The total estimated amount needed for DBCP compliance through FY 98/99 was over \$5,000,000 for the estimated total of six filters. This does not include the capital costs paid by the loan and only includes the loan payments and O&M expenses through FY 98/99.

However, it now appears that the City may be able to defer four of the six filters indefinitely. State regulations allow the City to place wells over the DBCP limit in "standby" mode, allowing their use for up to 15 days per year (each well). During the summer of 1993, the City was able to avoid the use of the 4 wells³ that do not meet the DBCP standard by labor intensive system monitoring and control and water conservation efforts. This involved allowing system pressure to fall to minimum values which increases the flow from the running wells thereby increasing system capacity.

As part of the 1993/94 Capital Improvement Program, staff recommended the installation of a second GAC filter at the new Well 4R drilled in 1993 at the Reid electrical substation in the industrial area east of Hwy 99 south of Lodi Ave. This well has both the highest DBCP concentration of any City well and the highest capacity, equal to about two normal wells. The estimated cost to install a permanent pump and complete this well site and install the filter is slightly over \$1,000,000. While this is a major expenditure that the City Council wanted to review again, staff feels the City should proceed with the project for a number of reasons:

- **We need another source of supply east of Hwy 99 now** - Of the two existing wells in this area, one (Well 10) is out of service due to bacteria and taste/odor problems. We will not be able to place this well back in service without a major investigative effort and the outcome of such an effort is uncertain. We need capacity to serve potential industry in the area. For example, a computer analysis of the existing system showed that we would have difficulty

² Very recently, City staff learned that other Central Valley water suppliers who have GAC filters are finding that they are getting only 2 years out of their filters. We are researching this further. If this is the case, the DBCP O&M figures will increase accordingly.

³ The number of wells out of compliance has changed over time. Another 8 wells have DBCP detected below the maximum contaminant level of 0.2 parts per billion. One concern is that heavy use of the marginal wells might cause DBCP to migrate to them and raise them out of compliance. On the other hand, removing DBCP from the groundwater by pumping may eventually result in lower concentrations in all the wells.

providing another 1000 gallons per minute peak flow for a potential user of the Minton building.

- **We will need other sources of supply east of Hwy 99 in the future** - The Water Master plan calls for an additional 6 wells in this area to accommodate the build out of the industrial area and to supply water for the southern residential areas of the City.
- **Low cost funding is available** - Interest on the State loan is only 3.41%. This is less than what we would pay even if we borrowed the money internally for other new wells.
- **The investment we have already made on Well 4R could be wasted** - We have spent over \$132,000 on Well 4R and have been reimbursed nearly \$78,000 to June 30, 1993 under the State loan. If we do not use the well, the State may ask for the money to be repaid immediately.
- **Another filter will reduce dependence on marginal wells** - With another source of clean water, we can reduce the use of marginal wells and those over the DBCP limit. This provides flexibility in the operating scheme described above and will allow us to maintain this scheme for more time.
- **We will be removing DBCP from the groundwater** - Removing the high concentrations of DBCP at this site will reduce the amount of DBCP that might migrate to other City wells.

In making this expenditure under the State loan, the total annual loan payment will increase by \$81,000 from the present \$51,000 to \$132,000. This is significantly below the earlier estimates of \$340,000. There will also be a comparable difference in ongoing O&M costs. Approximate additional O&M costs for the existing filter at Well 16 and the proposed filter at Well 4R total \$475,000 over the next 5 years.

Alternatives to the Well 4R project are limited. One is to install a storage tank (roughly 500,000 gallons) and a booster pump station on the site. This would supply additional water during peak demands and would be refilled from the system during low demand. The capital cost for such a tank is approximately \$430,000. Aside from probably not being eligible for the State loan, it would also entail increases in maintenance costs for power (all tank water must be pumped twice), repainting and may require continuous chlorination. The other option is to abandon the site, look for a clean site near the River and install another well and the necessary water main extensions. It is unlikely we could do all this before the Jan. 1, 1995 deadline for the State loan.

A decision on Well 4R and DBCP needs to be made soon, preferably in the next 30 days, if the City is to take advantage of the low cost financing available under the State loan.

Operation & Maintenance Needs

System operation and maintenance needs (other than for DBCP) are not predicted to change significantly through 1999. We assume water conservation activities, which have proven to be a valuable tool in the operation of the water system, will continue at current levels. Power costs, which account for nearly 30% of the O&M budget, are expected to increase 9% in 1994/95 and 4% annually thereafter based on comments from the Electric Utility Dept. Other expenses for labor and materials are expected to increase at the rate of 3% to 4% per year. Although these costs have increased at higher rates over the last 5 years, we do not expect that to continue, at least not of the magnitude of the other increases discussed in this report.

Expenses for “damage to property” have not budgeted in the past and have averaged about \$9,000 per year. These expenses are typically due to fire hydrants being hit by vehicles and vandalism. Given the uninsured motorist situation in California, it is assumed these costs will increase by 6% per year.

Overhead costs for the water utility will increase some unknown amount as the City improves its overall accounting methods for recovery of general administrative costs, work by other Divisions and Departments and, in particular, equipment replacement costs. There are no dedicated accounts within the City utilities for equipment replacement. Equipment replacement could be provided for by transferring cash to a replacement account as the equipment is used.

Capital Improvement Needs

Capital improvements needs are broken down into two categories as shown in the Capital Improvement Program: Capital Maintenance and System Expansion (new capacity). Capital maintenance includes replacements or major repairs of existing facilities which cost over \$10,000. System expansion includes capital improvements needed to provide capacity for new buildings and developments. These needs are discussed in the following sections.

System Expansion

Funding for system expansion is included in the City's Development Impact Mitigation Fee Program. This includes the cost of new wells, oversize mains and expansions to the Municipal Service Center. However, there is no guarantee that this fund will cover all the costs involved in providing this capacity. There are at least three scenarios in which the fee program revenue will be insufficient:

- **Increased demand from existing uses** -- If an industry or other customer increases their operation or consumption habits and causes growth in total peak demands, the utility will have to provide that capacity whether there is fee revenue or not. It is unlikely the fee program will collect fees if an existing customer increases consumption unless they are building upon a previously undeveloped portion of their property.
- **Underestimated costs in the fee program** -- The impact fee program included \$9,300,000 in new wells, building expansion at the MSC and updates of the water master plan through the year 2007. Five or ten years down the road, should we find these costs were underestimated, the utility will have to make up the difference, at least for the portion of development that occurred to that date. Fees could only be increased for the proportionate share of future development. One example of a possible underestimate is the cost of GAC filters on new wells. The program assumed half (7) of the new wells needed over the next 15 years would need filters at a cost of \$428,000 each. However, the one filter installed to date cost over \$500,000. Until we actually locate and construct new wells including the GAC filters, it is impossible to refine the number and cost of new filters needed.
- **Staged development** -- In many cases, particularly commercial developments, land is developed, utilities installed and costs are incurred by the fee program, but the building permits (which pay some of the fees) lag behind. In these cases, the fund could come up short in the short term. Money could be borrowed from other impact fee or other City funds if it is available, but interest must be paid, which increases the cost.

To help ease these possible shortfalls, as well as other emergencies, the water fund needs to have a healthy cash reserve. The subject of a reserve is addressed later in the report.

Capital Maintenance - Production System

Water wells do not last forever. They eventually need to be replaced for a number of reasons, including:

- **Failures** - Older wells were drilled in segments of decreasing diameter and were partially unlined. Often these segments are offset. Eventually these holes collapse or become unserviceable due to water level.
- **Reduced Capacity** -- Groundwater levels in the entire San Joaquin County area are declining at rates up to 2 feet per year. Lodi is in somewhat of a better position due to the close proximity of the Mokelumne River. As the water level decreases, pumps must be lowered to maintain production. If the well is smaller at lower depths, a smaller pump must be used (which decreases production and the lost capacity must be made up with new wells) or the well becomes practically unusable due to alignment, lack of casing or other reasons.
- **Contamination** -- Wells are sealed to various depths to prevent surface contamination from entering the well. In years past, the main concern was leaking sewers and the seals were relatively shallow. Now, in addition, concerns focus on leaking gasoline tanks, various solvents and other contaminants. Often this problem combined with the age and construction of the well lead to a decision to abandon the well.

Since 1978, the City has drilled seven replacement wells including Well 4R mentioned earlier. As the City grows and needs additional wells, the replacement rate will increase. Replacement of wells will often require the acquisition of a new site, as was the case for all seven mentioned above. The reasons for a new site vary. In some cases, the old well was drilled in such a way that large underground cavities were developed. These cavities make subsequent drilling near the well practically impossible. In most cases, the site is simply too small to accommodate the necessary clearances to the property line or sewers or fit in new equipment. Other than relatively minor repairs, rehabilitating wells produces less than satisfactory results.

The cost to replace a well will vary considerably depending on how much equipment can be reused and whether a new site is needed. At a minimum, the cost will be roughly \$150,000 for a new well on the same site and reusing most of the equipment. At the high end, with a new site and most of the equipment, the cost is roughly \$300,000. If the site must be purchased, the cost will be higher. To date, the City has been able to locate all but one of these replacement sites on City owned property. In the future, that will be more difficult as suitable locations are used up.

Along with the actual well, a well site contains other major pieces of equipment that must be periodically replaced or rehabilitated in a major way. The main pieces are the electrical panel (\$25,000 to \$30,000), the pump & motor (\$25,000 to \$35,000) and at some sites, standby generators and chlorinators. Estimated future replacement of wells, pumps & motors and electrical panels are shown in Exhibit 2. The assumptions used are shown in the Exhibit. In summary, before the year 2000, the City will need to replace one additional well, four pumps & motors and replace or rehabilitate six electrical panels at a total cost of approximately \$513,000. In the past, when the system has had more than enough wells available to meet peak demands, it has been practical to operate pumps, motors and electrical panels until they failed, then replace or repair

them. In recent years, this policy has meant that the system is often operating at 100% of capacity during peak demands in the summer months. Should another well fail or the system experience an abnormal demand such as a large fire, system pressure would fall. Aside from possibly violating Federal and State standards and being a nuisance for water customers, low main pressure can disrupt industrial processes and lead to contamination of the water mains from surrounding soil or from backflow from the on-site system. Prudent operating practices would be to schedule major repairs during the winter months. In either case, funds must be available to do such costly replacements.

According to the master water plan prepared as part of the General Plan, the City should have one-third of the wells equipped with standby generators in addition to having 20% more wells than are actually needed to meet peak demands. These safety factors allow for sustained power outages, equipment failures and unplanned peak demands. The standby generators presently in place are typically old, WWII government surplus type units that are unrepairable or at best, unreliable. The City has appropriated funds for seven new units and is ready to go to bid. The plan has been to bid for a lease-purchase package including installation. This cost has been estimated at \$236,000 annually for five years. Given the present state of the water fund, we plan to arrange the bid such that all or part of this cost is deferred until 1994/95. With this project, the need for future replacement generators will be beyond the period of this study.

It should be noted that this report assumes that ground water will continue to be the sole source for the City's water. The water master plan briefly discussed surface water as a source and estimated the annualized cost of treatment facilities, operation and maintenance at \$0.60 per 1000 gallons. This was compared to the cost of producing ground water at \$0.26 per 1000 gallons. The cost of distribution system maintenance and other costs would be added to this. This would result in rates considerably higher than the City's present retail water rate of approximately \$0.38 per 1000 gallons (\$0.285 per 100 cu. ft.) Of course, this assumes a reliable source of surface water supply could even be obtained. The conclusion was that the City would be better off continuing to use groundwater even if it meant subsidizing the cost of surface water use by others in the area (primarily agriculture). Since no plan has been finalized for bringing additional surface water to the area, no cost sharing plan has been developed. Thus no such cost has been included in this report.

Capital Maintenance - Distribution System

The 196 miles of mains in the distribution system interconnect all the wells and transport water from operating wells to the customer's service. The elevated water tank is also connected to the system and acts like a minor source of supply or holding tank when customer demand is slightly above or below well output. The tank provides stable system pressure and is used as a pressure reference point for the automatic control system. The tank was replaced in 1988/89 and except for repainting (which will cost roughly \$50,000), should not need any substantial maintenance in the near future.

A breakdown of the distribution system mains by size, length and replacement cost is contained in Exhibit 3. While the majority of the mains are in good condition, the steel mains (mostly 2") and the oldest AC pipe (mostly 3") are the source of most problems with the distribution system. First, in most cases, these sizes are too small to carry the flows needed as more homes install automatic sprinklers, dishwashers and other modern appliances. Second, the steel mains frequently leak through corrosion pits or splits along the seams. Spot repairs that should be able to be made with a

repair clamp, turn into main replacements as the crews dig down the length of the pipe to find a spot strong enough to make a new connection. The older AC pipe has shown a tendency to soften and becomes a problem when new taps are needed or leaks at taps are repaired. The cast iron pipes are in good condition, however, the joints are often a problem. These bell and spigot joints were sealed with lead and oakum (a rope-like material), which does not do well with vibration or other movement that can occur during street repairs or other adjacent excavations. We have also found a few mains made of odd sized well casing or other steel pipe that is difficult and time consuming, thus costly to repair. For all these reasons, it is desirable to be in a position to replace old mains on a regular basis, certainly when the overlying street is being repaired to avoid having to cut the street later. For example, the main in Cherokee Lane is well over 40 years old. Given its age and size (mostly 6", where it should be at least 8") it should be replaced if a major improvement project is undertaken of Cherokee Lane.

Given the total system footage, average replacement costs and assuming a useful life of 70 to 100 years, the annual replacement cost for the present system ranges from \$836,000 to \$585,000. In other words, if pipes lasted 100 years, we should be replacing 1% of the system each year at a cost of \$585,000. (See Exhibit 3) These amounts are six to four times what the City has been spending on main replacements, thus it will be difficult to suddenly increase replacements to that level. However, it is reasonable and is becoming imperative to replace the older mains that are exceeding 50 years of age. Unfortunately we do not have complete records on the age of each main. Thus we do not have the footage of these old mains. To refine this number, the annexation map and subdivision maps were matched to the water system to estimate the footage of pipe installed before 1940. Mains installed in the last 20 years or so were manually subtracted from these totals. It was also assumed that the larger pipes will not need replacement in the short term. This analysis is shown in Exhibit 4. The area, mainly the Central and Eastside portions of the City, is shown in Exhibit 1. The result is that 21% or roughly \$11,100,000 worth of main replacements should be considered in the near future. Even stretching out replacement of these mains over the next 20 years will require roughly \$550,000 per year. This would still leave some 21 miles of newer 2" and 3" pipe still in the system.

The distribution system also includes valves of varying age and condition. Present design standards provide for sufficient valves to isolate relatively small segments of main to allow repair to be made with minimal customer outage and disruption to system capacity. Older installations (pre 1970's) were made with fewer valves. In addition, the oldest valves often break when used because the City has had insufficient personnel to carry out a regular valve "exercising" program. Such a program would add roughly \$30,000 per year to the O&M budget, mostly in additional labor costs. Thus outages due to repairs on the older mains will "grow" as additional mains are shut down to fix a valve broken as a result of the first shutdown. The main replacement costs include an allowance for valve replacements to current standards.

Capital Maintenance - Services

In this context services consists of fire hydrants and water services including meters. The older fire hydrants in the system are the "dry-barrel" type. In these hydrants, there is only one valve for the entire hydrant located at the bottom of the hydrant underground and the operating nut is on the top. Present standards call for "wet-barrel" hydrants in which each outlet has its own valve and operating nut on the side of the hydrant. A problem with the dry barrel type is that if the hydrant is damaged (e.g., hit by a car) and not reported, the break can occur underground above the valve and

not be noticed until the hydrant is used, or rather, tried to be used. At best, no water comes out and at worst, the hydrant breaks apart and gushes water until it is shut down from another valve. In some cases the hydrant does not have a separate shut-off valve and the main(s) must be shut down. In some of the older Central and Eastside areas, the hydrant spacing and location is not up to current standards. In a few locations, the hydrant is fed from an undersized lateral or main. The main replacement costs include an allowance for hydrant replacements.

Installation of water meters is now required by State law on all new services. As clean, potable water becomes more scarce in other areas of the State, the pressure to conserve and restrict water use through the use of meters will increase. It is a strong possibility the State will require the retrofitting of meters. In addition, the disparity between low and high water users inherent in the City's flat rate system will become more apparent as rates are increased and as the new residential services are metered. The City was within two years of the end of a long range program to retrofit water meters on all commercial and industrial services. However, this program was discontinued when the personnel were cut from the budget in 1993/94. The City still requires property owners, including residential, to pay for a upgraded or new service plus meter on all building permits with a project valuation over \$25,000. However, this approach will never in all practicality achieve full metering. To do so, some retrofit program is necessary. A separate residential retrofit program would cost roughly \$16 million. For a 30 year program the annual cost is approximately \$550,000 in present day dollars.

The total cost of main replacements and meter retrofits considered separately overstates the actual cost if both programs are undertaken at once. This is because the main replacements includes an allowance for replacing services. However, the main replacement rate is much lower than the meter retrofit program. If both programs are undertaken as described above, the meter program cost could be reduced by approximately \$194,000 per year. While it may be tempting to undertake the main replacements and only install meters on those services affected by the new main, this will result in a hopscotch pattern of meter installations around the City. If meters are to be installed in residential areas, the program should be planned on a systematic basis and the installations that come with new mains should be used as a supplement. Also, as the meters get old, they must be tested and eventually replaced. The costs of meter maintenance have not been estimated. Finally, if a City-wide metering program is started, the process of meter reading should be automated.

Capital Maintenance - Equipment

The water utility's equipment (rolling stock and heavy tools) is mostly shared with that of the wastewater utility. Assuming 50% of the purchase price on the shared equipment plus the total price of the few pieces of equipment solely used by water, the value of this equipment is approximately \$244,000. The replacement of equipment based on the average expenses of the four prior years is roughly 25% of the total value. It is reasonable to assume this level of expenditure should continue for the foreseeable future with an allowance for cost increases. As noted earlier, the establishment of an equipment replacement account within the utilities should be considered.

Water Utility Revenue & Expenses

Water utility revenues are nearly entirely (96%) derived from sale of water. Other revenue includes tap fees, interest earnings charges for temporary construction backflow devices and meters and miscellaneous sources. Total revenue for the past five years was as follows:

FY:	1988/89	\$2,024,641
	1989/90	2,755,951
	1990/91	2,791,318
	1991/92	2,814,367
	1992/93	2,786,017

Rates were increased 15% in 1988 to provide additional funds for capital improvements and another 5% in 1991 for operating expenses. The Water Utility Fund contributes an amount to the General Fund as do the Sewer and Electric utilities. This amount is included in the annual budget and for the Water Utility has ranged from \$500,000 in 1988/89 to just over \$800,000⁴ in 1990/91 and the budget amount is \$750,000 this year. Note that this does not include charges for accounting, billing, legal and other administrative services which amounts to over \$100,000 per year. While the contribution amount is a Council decision, from the standpoint of the water utility, it is important that the amount be based on some formula, so that it is predictable and can be planned along with other expenses. It is recommended that the Council adopt a policy on the contribution amount by setting it at a percentage of the previous year's actual revenue.

In addition to the 1988 rate increase, the Water fund borrowed \$1,000,000 from the Electric Utility for capital improvements. This has kept the fund in the black, however, total expenses have exceeded revenues for all but one of the subsequent years. The average over the past 5 years is that expenses exceeded revenue by \$340,000 per year. This year, with expenses cut to the minimum and a budgeted expenses exceeding estimated revenues by \$200,000, the total fund will finish approximately \$60,000 in the red. A summary of the water fund prepared by the Finance Dept. is shown in Exhibit 5. A more detailed 5 year history⁵ is shown in Exhibit 6.

Obviously the Water Utility needs to either raise revenue or cut expenses (or the General Fund contribution) if it is to operate in the black. This year, expenses have been already cut by the City Council in the adoption of the operating and capital budgets. Two positions were eliminated and other expenses reduced in the operating budget. The capital budget (not including impact fee projects) includes only one major project, the replacement of the generators as discussed earlier in this report. Two high priority projects, the enclosure for the new well at Hutchins Street Square and a water main through Lodi Lake Park, along with other water main replacements, have been deferred. Cutting the General Fund contribution could be considered, however, the General Fund budget has already been cut significantly. Evaluating this option further is beyond the scope of this report. Raising revenue through a water rate increase is discussed in the next section.

⁴ The budget amount was slightly lower, this figure includes Special Allocations for General Fund uses which occurred during the fiscal year.

⁵ This history was prepared by the Public Works Dept. and is organized very differently from the Finance Dept. summary in order to show DBCP and other costs in more detail. The "bottom line" is the same.

Water Rates

The rate increases needed to correct the water utility deficit and provide adequate funding for operations and projects will depend on what the public and the Council wish to accomplish. There are many ways to handle water rates and any increases. Before these can be quantified, a number of decisions must be made. These are outlined at the end of the report. The following presents general background material on rates and issues that should be considered in Lodi.

Existing Water Rates

The majority of the Water Utility revenue is from flat rate charges for water service. The majority of the flat rates are based on the number of bedrooms in a residence. The remaining non-residential flat rate customers are charged based on the size of the service or some other long forgotten estimate of water use. Approximately 21% of the water produced is sold to metered customers while the revenue from all non-residential accounts is just over 20%. The implications of this are discussed in the next section.

The present rate structure is shown on the following table:

Residential Flat Rate (per month):

Single Family Unit (one bedroom)	\$ 7.35
(two bedrooms)	\$ 8.82
(three bedrooms)	\$ 10.58
(four bedrooms)	\$ 12.71
(five bedrooms)	\$ 15.25
(six bedrooms)	\$ 18.29
(seven bedrooms)	\$ 21.95
Multiple Family Unit (one bedroom)	\$ 6.30
(two bedrooms)	\$ 7.56
(three bedrooms)	\$ 9.07 + 20% for ea. add'l bedroom

Metered Rate	\$ 0.285	per 100 cu. ft. (approx. 38¢ per 1000 gal.)
monthly minimums:	\$ 10.58	¾" meter, (approx. allowance: 28,000 gal.)
	\$ 15.87	1" meter, (42,000 gal.)
	\$ 21.16	1½" meter, (56,000 gal.)
	\$ 26.46	2" meter, (70,000 gal.)
	\$ 37.04	3" meter, (97,000 gal.)
	\$ 48.62	4" meter, (125,000 gal.)
	\$ 68.79	6" meter, (181,000 gal.)
	\$ 89.96	8" meter, (237,000 gal.)

Rate Structure Issues

The metered rates have monthly minimums that include an allowance for water, thus there is no additional charge if water usage is below a certain amount based on the water rate. The present practice of including an allowance for water in the metered rate should be changed regardless of the condition of the water utility. For example, with a ¾" meter, the allowance is approximately 28,000 gallons. For a 2" meter, the allowance is approximately 70,000 gallons. This arrangement,

aside from being non-standard in the industry, does little to encourage water conservation. It also leads to a loss when meters are installed. The 28,000 gallon allowance on a residential sized service actually exceeds the City's Design Standard amount of water for a single family residence. Other factors have worked to make the metering program uneconomic. The City's meter retrofit program focused on high water users in its early stages and increased revenue. Later, until the program was discontinued this year, the remaining unmetered commercial and industrial services were being metered on a geographic basis. Thus, relatively low water users were being fitted with meters. Another factor is that as commercial parcels are metered, we are often placing one meter on a service that may have two or more businesses that once were charged a flat rate individually. These factors have led to the net result that metering has not increased revenue under our outdated rate structure.

The common way to charge for metered water service is to have a base charge for the service (a "ready to serve" charge) plus a cost for water based on usage. Strictly speaking, all the fixed costs of operating the system should be in the base charge and the cost of water only includes the actual costs to pump and treat water. This would prevent the common occurrence of having to raise rates to compensate for water conservation. (The "we sold less, so we have to charge more" problem.) A drawback to this is that in the City's system, the cost of water portion would be very cheap compared to the base rate. This would discourage conservation.

There are other rate mechanisms and charges that could also be implemented including those listed below. While in the big picture the potential revenue from these sources is relatively small, they should be considered in fairness to all the customers who do not use or benefit from these activities.

- **Charges for service calls** -- This could include such activities as locating services and service turn off/on. For example, if someone breaks their water line on a weekend and the City has to send out someone to turn the water off, then back on again, there is no charge under the present system.
- **Charges for all construction water** -- Presently, the City charges for water used to flush new mains since the amount of water used can be substantial and will depend on the care used by the Contractor in doing the installation. Water for dust control or other construction purposes is now provided free of charge.
- **Standby charges for fire services** -- Fire services are unmetered, thus there is no monthly charge for this service. A "readiness to serve" or "standby" charge is fairly common in the water industry.

A comprehensive water rate study is a major undertaking and is often done by specialized consultants. The matter would be simplified if the Council could provide some policy direction on the above areas to be considered and those that should not. While staff could do a short analysis, a more comprehensive study involving allocation of costs to different classifications of rate payers (i.e. residential/non-residential, single family/apartment, etc.), the use of a consultant is recommended. A consultant would also be useful to get fresh ideas and concepts and to allow more time to be spent on the study than would be available from existing City staff.

Rate Increase Issues and Factors

Even after decisions are made as to how to charge for water and at what level we want to fund and improve the water system, there are options as to how rates should be increased. One option is to

phase in the increases over a few years as was successfully done a few years ago with wastewater rates. Another is to "bite the bullet" and do one large rate increase. Either way, we should plan on having yearly or biannual small adjustments to keep up with inflation, thus avoiding large increases in the future. In conjunction with this, the water fund should have a healthy reserve to "smooth out" the effect of any major expenses such as a well failure. The reserve should be at least \$300,000.

Either option has advantages and disadvantages. The one-time approach gets it done with one round of public controversy. However, if the increase is large, that may be impractical. Local industries have often requested that rate increases be phased to allow them to plan their budgets accordingly. The phased wastewater rate increases produced very few complaints. One short term option that could be considered would be to raise only the flat rates and the base meter charge, leaving the charge for water the same. This would make the increase for large water users negligible.

To provide some feel for the amount of increases that could be considered, the following table lists the needs described earlier and relates them to existing water fund revenue. They are listed in the order presented in the report. For example, funding a program that costs \$280,000 per year means a 10% increase in rates based on the estimated 1993/94 revenue of \$2.8 million (rounded from \$2,780,900). This is only an approximation as the effects of timing on expenditures, loan payments, interest and other factors should be taken into account.

<u>Project or Program</u>	<u>Cost</u>	<u>Rate Increase</u>
DBCP loan payment (existing loan amt.)	\$51,000	1.8%
DBCP loan payment (Well 4R project)	81,000	2.9%
DBCP filter O&M, including Well 4R (assuming \$475,000 cost spread over 5 years)	95,000	3.4%
Well & Pumping Equipment Replacement (assuming \$513,000 cost spread over 5 years)	102,000	3.6%
Generator replacement lease payments	236,000	8.4%
Main replacements on 100 yr. cycle	585,000	20.9%
Valve maintenance program	30,000	1.1%
Meter retrofit program over 30 years	550,000	19.6%
Increase revenue to match current expenditures	200,000	7.1%
Increase revenue to match recent expenditures	340,000	12.1%
Build water fund reserve to \$300,000 over 5 years	60,000	2.1%

The above percentages have purposely not been totaled (yes, it is over 80%). A total would be very misleading as there is some overlap in the items and certainly it is not reasonable to take on this much all at once. Again, a more detailed analysis would be needed to quantify the needed rate increase depending on the answers to the questions summarized in the following section. The issues involved in long range replacement of capital improvements is not new. A recent editorial in a publication from the American Public Works Association discussed the issue and pointed out one interesting example from England. A copy is included at the end of the report (Exhibit 7).

Summary

The above report describes a number of problems and associated costs and options for the water utility. Over the long run we assume the City will establish a program of upgrading old mains and wells, complying with DBCP regulations and possibly retrofitting residential water meters. Certainly the level of effort in these areas is open to question and must be decided by the City Council. Public Works staff considers the level of effort shown for replacing the oldest mains as a reasonable amount. It could certainly be more and could be less, with additional risk of unplanned interruptions of service, and cost. Compliance with DBCP regulations, however repugnant, is only a matter of time. While compliance may be delayed, we will lose some very low cost financing and over time, it is virtually certain the City will have to incur increased costs of the magnitude shown. The residential meter retrofit program is a matter of City policy. The "fairness" of having a partially metered system should be considered. Other decisions on water rate structure and policies, a water fund reserve and the General Fund contribution also need to be made. Staff recommends that the following actions and options be considered:

- **Make a decision on DBCP as soon as possible** - We suggest that the Council make a decision, possibly at a special evening Council meeting to approve the Well 4R project or provide other direction to staff.
- **Decide on how to approach a rate increase** - We see two options here:
 - Adopt an immediate increase of 10 to 15 percent⁶ on the flat rate and base meter charge and follow up with decisions on the remaining issues and rate increases; or,
 - Act quickly on the remaining issues and adopt a rate increase plan.

The remaining decisions and issues that need to be addressed are:

- Well equipment replacements
- Distribution system replacements & valve maintenance
- Appropriate level of reserve in the water fund
- Water meter retrofit program
- Policy on contributions to the General Fund
- Policy on minor rate adjustments for inflation
- Water rate study including
 - who should do the study
 - preference for rate mechanism
 - charges for additional services

Certainly the Council will have other questions and direction that staff will need to address. For example, we contemplated doing a survey of other agencies, but have held off until we receive Council direction. Past surveys have shown the City is at or below average in water rates. To do a survey properly takes time and the results are quickly out of date. Plus, we felt there may be other factors besides base rates that the Council wish to have surveyed.

Finally, the Council may wish to discuss how to obtain public input on the service provided by the water system before direction on the above items is given.

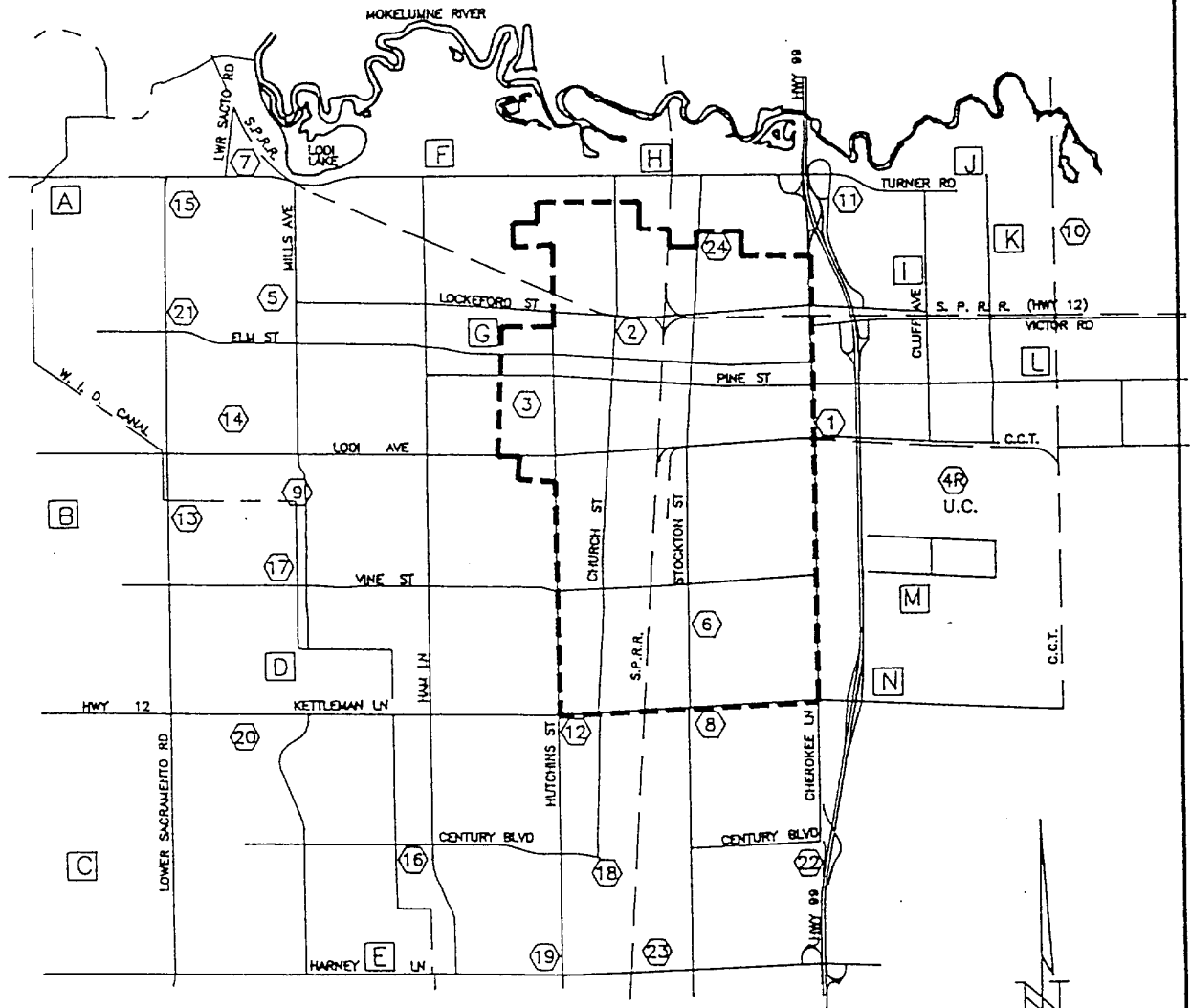
⁶ This will raise approximately \$100,000 to \$150,000 this fiscal year if implemented starting February, 1994.



CITY OF LODI

PUBLIC WORKS DEPARTMENT

WELL LOCATIONS



WELL NO.

UC UNDER CONSTRUCTION



PLANNED WELLS

--- Approx. area of oldest mains (1940 & Older)

Water Production System Replacement Analysis - March 1993

	Well/Site Replacement				Pump/Motor Replacement				Electrical Panel Rehab/Repl.			
	Well Repl.		Well		Pump Yr.		P/M		Panel Yr.	Elec. Panel		Elec. Panel
Well #	Drilled	Yr.	Well Cost	Notes	Inst.	Type	R/R Yr.	P/M Cost	Inst.	R/R Yr.	E.P. Cost	Notes
1R	1988	2038	\$178,000		1988	Sub	2013	\$35,000	1981	2011	\$10,000	rehab
2	1921	1995	\$283,000	new site	1995	DWT	2020	\$25,000	1960	1995	\$30,000	new
3R	1993	2043	\$178,000		1993	Sub	2018	\$35,000	1993	2023	\$10,000	rehab
4R	1993	2043	\$178,000		1993	DWT	2018	\$25,000	1993	2023	\$10,000	rehab
5	1956	2006	\$178,000		1981	DWT	2006	\$25,000	1966	1996	\$10,000	rehab
6	1984	2034	\$178,000		1984	DWT	2009	\$25,000	1985	2015	\$10,000	rehab
7	1978	2028	\$178,000		1978	DWT	2003	\$25,000	1962	1998	\$30,000	new
8	1942	2012	\$283,000	new site	1986	DWT	2011	\$25,000	1972	2002	\$10,000	rehab
9	1978	2028	\$178,000		1993	Sub	2018	\$35,000	1967	1997	\$10,000	rehab
10	1987	2037	\$178,000		1987	Sub	2012	\$35,000	1983	2013	\$10,000	rehab
11R	1991	2041	\$178,000		1991	DWT	2016	\$25,000	1992	2022	\$10,000	rehab
12	1962	2012	\$283,000	new site	1994	Sub	2019	\$35,000	1994	2024	\$10,000	rehab
13	1964	2014	\$178,000		1964	Sub	1989	\$35,000	1977	2007	\$10,000	rehab
14	1968	2018	\$178,000		1968	Sub	1993	\$35,000	1969	1999	\$10,000	rehab
15	1969	2019	\$283,000	new site	1969	Sub	1994	\$35,000	1969	1999	\$10,000	rehab
16	1973	2023	\$178,000		1973	DWT	1998	\$25,000	1972	2002	\$10,000	rehab
17	1973	2023	\$283,000	new site	1992	DWT	2017	\$25,000	1972	2002	\$10,000	rehab
18	1975	2025	\$283,000	new site	1975	Sub	2000	\$35,000	1975	2005	\$10,000	rehab
19	1980	2030	\$283,000	new site	1980	Sub	2005	\$35,000	1980	2010	\$10,000	rehab
20	1982	2032	\$283,000	new site	1982	DWT	2007	\$25,000	1982	2012	\$10,000	rehab
21	1985	2035	\$178,000		1985	DWT	2010	\$25,000	1985	2015	\$10,000	rehab
22	1988	2038	\$178,000		1988	DWT	2013	\$25,000	1987	2017	\$10,000	rehab
23	1989	2039	\$178,000		1989	DWT	2014	\$25,000	1989	2019	\$10,000	rehab
24	1991	2041	\$178,000		1991	DWT	2016	\$25,000	1990	2020	\$10,000	rehab
25	1994	2044	\$178,000		1994	DWT	2019	\$25,000	1994	2024	\$10,000	rehab
\$5,290,000					\$725,000				\$290,000			

Water Distribution Mains - Replacement Cost

Pipe Size	Total Length in System (ft.)	%	Pipe only Cost/ft.	Total (including valves, services, eng. & ENR update)		
2"	109,175	11%	\$16.00	\$5,206,784	\$47.69	avg. cost/ft.
3"	92,963	9%	18.00	\$4,680,082	\$50.34	
4"	34,348	3%	19.00	\$1,774,733	\$51.67	
6"	353,321	34%	20.00	\$18,724,208	\$52.99	
8"	260,185	25%	24.00	\$15,168,186	\$58.30	
10"	140,128	13%	30.00	\$9,283,746	\$66.25	
12"	28,049	3%	35.00	\$2,044,222	\$72.88	
14"	20,561	2%	40.00	\$1,634,783	\$79.51	
Total:	1,038,730	100%	Total:	\$58,516,743		
Annual Replacement Cost:				\$836,000	\$780,000	\$585,000
based on:				70 year cycle	75	100
% of system replaced per year:				1.43%	1.33%	1.00%

Notes:

ENR*	4673	Jan-90
ENR, updated	4956	Jul-92
Valves & hydrants	\$1,400	each (average)
	one per	250 ft.
Services	\$1,150	each (average)
	one service per	80 ft.
	Eng. & Cont.	25%
Unit prices per Nolte estimates, Impact Fee Study with interpolation		
Footages as of 6/92		

• Engineering New Record, published by McGraw-Hill

Old Water Mains (Pre 1940) - Replacement Cost

	Pipe Size	Approximate Length (ft.)	%	Pipe only Cost/ft.	Total (including valves, services, eng. & ENR update)			
	2"	65,235	30%	\$16.00	\$3,111,193	\$47.69	avg. cost/ft.	
	3"	24,610	11%	18.00	\$1,238,953	\$50.34		
	4"	9,950	5%	19.00	\$514,108	\$51.67		
	6"	87,750	41%	20.00	\$4,650,302	\$52.99		
	8"	27,830	13%	24.00	\$1,622,425	assumed 50% of 8" can be deferred assumed replacement of all lines larger than 8" can be deferred		
	10"	0	0%	30.00	\$0			
	12"	0	0%	35.00	\$0			
	14"	0	0%	40.00	\$0			
	Total:	215,375	100%	Total:	\$11,136,982			
Total System Footage:		1,038,730						
Old Mains, % of system:		21%		Annual Cost:	\$2,227,000	\$1,114,000	\$742,000	\$557,000
				based on:	5	10	15	20
					year cycle			
% of old mains replaced per year:					20.00%	10.00%	6.67%	5.00%
% of total system replaced per year:					4%	2%	1%	1%
approx. # of services replaced/year:					538	269	179	135
approx. cost of services/year (included above):					\$774,000	\$387,000	\$258,000	\$194,000

Notes:

ENR*	4673	Jan-90
ENR, updated	4956	Jul-92
Valves & hydrants	\$1,400	each (average)
	one per	250 ft. avg. both valves & hydrants
Services	\$1,150	each (average) includes allowance for replumbing to house
	one service per	80 ft. rough average allowing for intersections, large parcel & both sides of street
Eng. & Cont.		25%

Unit prices per Nolte estimates, Impact Fee Study with interpolation
Footages as of 6/92

* Engineering New Record, published by McGraw-Hill

WATER FUND SUMMARY

September 30, 1993

		Budget 1994	Actual 1993
Beginning Balance – Available Funds (Cash)		140,493	641,560
Revenues			
Operating Charges	2,780,900		2,657,035
Other Revenues	107,000		128,981
Sub–Total		2,887,900	2,786,016
Operating Expenditures			
Damage to Property			(15,562)
Water Loan Interest and Fees (State)			(20,020)
Administration	(191,827)		(176,352)
Water Conservation Program	(44,796)		(34,176)
Production	(644,706)		(800,806)
DBCP Monitoring	(294,075)		(207,666)
Distribution	(321,710)		(300,841)
Encumbrances	(9,634)		
Fire Hydrants	(7,835)		(2,737)
Sub–Total		(1,514,583)	(1,558,160)
Capital Projects			
Work In Progress	(231,467)		0
Appropriation Adjustments – PY	54,116		
Encumbrances	(47,086)		
Water Impact Fee Projects	(428,000)		
State Loan Reimbursement	1,068,000		148,069
Loan (Electric)	(200,000)		(215,000)
Approved Budget/Expenditures	(1,367,000)		(693,918)
Sub–Total		(1,151,437)	(760,849)
Operating Transfers			
General Fund Charges (Cost of Services)	(124,771)		(155,360)
General Fund Transfer	(750,000)		(756,000)
Special Allocations/Transfers			45,961
Water Impact Fee Transfer	428,000		
Water Impact Fee Transfer	62,516		
Insurance	(7,450)		(9,200)
Engineering Charges	(30,905)		(92,070)
Sub–Total		(422,610)	(966,669)
Other Sources/Uses		(1,405)	(1,405)
Ending Balance – Funds Available (Cash)		(61,642)	140,493

Source: 1992-93 Financial Statements plus CIP adopted by City Council in November 1993

Water Fund Analysis

Fiscal Year:	1988/89	1989/90	1990/91	1991/92	1992/93	1993/94
	(Actual)	(Actual)	(Actual)	(Actual)	(Actual)	(per budget)
Revenue						
Water Sales - Public	\$1,835,533	\$2,488,720	\$2,534,828	\$2,646,844	\$2,637,355	\$2,764,600
Water Sales - City	\$7,840	\$10,651	\$10,943	\$12,849	\$19,681	\$16,300
Total Operating Revenue	\$1,843,373	\$2,499,371	\$2,545,771	\$2,659,693	\$2,657,035	\$2,780,900
Investment Earnings	\$93,285	\$137,944	\$125,932	\$12,073	\$6,352	\$0
Rent of City Property	\$26,519	\$51,517	\$44,164	\$59,362	\$35,097	\$30,000
Revenue, Misc	\$40,078	\$25,315	\$48,016	\$38,537	\$11,159	\$8,000
Total Non-Operating Revenue	\$181,268	\$256,580	\$245,547	\$154,675	\$128,981	\$107,000
Rate Increase Revenue	\$240,000					\$0
% Increase	15%			5%	Included above	
Total Revenue	\$2,024,641	\$2,755,951	\$2,791,318	\$2,814,367	\$2,786,017	\$2,887,900
Contributions To Other Funds						
General Fund	\$500,000	\$503,245	\$804,460	\$775,508	\$764,572	\$750,000
Insurance, misc	\$2,000	\$8,035	\$8,035	\$9,200	\$9,200	\$7,450
Total Contributions	\$502,000	\$511,280	\$812,495	\$784,708	\$773,772	\$757,450
Net Revenue	\$1,522,641	\$2,244,671	\$1,978,823	\$2,029,659	\$2,012,245	\$2,130,450
Expenses						
Operation & Maintenance						
Administration	\$101,580	\$118,768	\$183,658	\$201,840	\$176,352	\$191,827
Damage to City Property	\$11,714	\$6,417	\$22,957	(\$4,719)	\$15,562	
Water Conservation	\$16,939	\$33,054	\$50,632	\$43,653	\$34,176	\$44,796
Engineering	\$16,580	\$32,758	\$32,220	\$37,815	\$37,501	\$30,905
Production	\$515,290	\$606,913	\$685,107	\$755,871	\$800,806	\$644,706
DBCP Monitoring	\$0	\$12,497	\$23,852	\$85,891	\$207,666	\$294,075
Distribution	\$208,650	\$209,569	\$268,026	\$265,384	\$300,841	\$321,710
Fire Hydrants	\$9,130	\$5,957	\$10,667	\$11,783	\$2,737	\$7,835
Subtotal O&M	\$879,883	\$1,025,934	\$1,277,119	\$1,397,517	\$1,575,640	\$1,535,854
Subtotal O&M w/o DBCP	\$879,883	\$1,013,437	\$1,253,267	\$1,311,626	\$1,367,974	\$1,241,779
Interfund Transfers	\$136,840	\$154,628	\$171,757	\$174,175	\$129,752	\$124,771
Transfers & chg's in assets/liabilities	(\$4,895)	\$1,725	\$17,660	(\$1,760)	(\$19,319)	(\$4,331)
Total O&M	\$1,011,828	\$1,182,287	\$1,466,536	\$1,569,932	\$1,686,074	\$1,656,294
Total O&M w/o DBCP	\$1,011,828	\$1,169,790	\$1,442,684	\$1,484,041	\$1,478,408	\$1,362,219
DBCP Compliance						\$1,504,949
Monitoring & O&M on ex. filter	\$0	\$12,497	\$23,852	\$85,891	\$207,666	\$294,075
Ex. filter & design of new, W4, misc	\$1,747	\$23,329	\$38,887	\$529,963	\$162,614	\$45,350
Loan Proceeds	n/a	n/a	n/a	(\$504,927)	(\$148,068)	(\$45,350)
Loan Pmts (amt. borrowed to date)	n/a	n/a	n/a	\$0	\$20,020	
Loan Payments based on:						
\$1,100,000 New filters	\$0	\$0	\$0	\$0	\$0	
O&M on new filters on ex. wells	n/a	n/a	n/a	n/a	n/a	n/a
O&M on new filters on new wells	n/a	n/a	n/a	n/a	n/a	assumed none
Contingencies, legal, misc.	n/a	n/a	n/a	n/a	n/a	
Total DBCP Compliance	\$1,747	\$35,826	\$62,739	\$110,927	\$242,232	\$294,075
Capital Improvements						
Capital Maintenance:						
Distribution System	\$192,353	\$133,321	\$143,539	\$177,515	\$56,376	\$132,891
Production System	\$769,131	\$352,647	\$381,236	\$197,537	\$310,941	\$315,549
Engineering Charges					\$70,555	(future engineer)
Equipment, Miscellaneous	\$101,510	\$60,918	\$53,292	\$88,955	\$1,681	\$13,618
Total Capital Maintenance	\$1,062,994	\$546,886	\$578,067	\$464,007	\$439,553	\$462,068
Miscellaneous Projects						
Capital Loan Payments	\$33,333	\$91,759	\$325,092	\$264,000	\$218,000	\$209,000
Impact Fee revenue/project adj's -		n/a	n/a	n/a	n/a	n/a
Impact Fee shortfall - estimated	\$0	\$0	\$11,484	\$1,859		
Commercial & Ind. Meter Retrofit	\$41,829	\$13,612	\$101,002	\$126,076	\$135,118	\$5,233
Residential Meter Retrofit Program	\$0	\$0	\$0	\$0	\$0	\$0
Total Miscellaneous Projects	\$75,162	\$105,371	\$437,578	\$391,935	\$353,118	\$214,233
Total Capital Improvements	\$1,138,156	\$652,257	\$1,015,645	\$855,942	\$792,671	\$676,291
Total Expenses	\$2,151,732	\$1,857,872	\$2,521,068	\$2,450,910	\$2,513,311	\$2,332,585
Net Revenue less Expenses	(\$629,090)	\$386,799	(\$542,245)	(\$421,250)	(\$501,066)	(\$202,135)
Starting Balance:	\$1,847,346	(includes \$1,000,000 loan from Electric Utility)				
Balance (Cumulative Net)	\$1,218,256	\$1,605,054	\$1,062,810	\$641,559	\$140,493	(\$61,642)

♦ EDITORIALS ♦

Infrastructure, if you build it....

"London Bridge is falling down, falling down, falling down...." This first line of a children's song is probably known to us all. But a recent news story reports that one of London's most famous bridges, the Tower Bridge, will remain standing because funds from an 800-year old trust fund are being used to finance the cost of major repairs. It also means that Londoners, while inconvenienced by the temporary closing of the bridge, will not see any of their taxes used to pay for the repairs.

Public works officials are very familiar with the difficulty of finding the funds needed for major repairs of existing facilities. A new roof for City Hall, replacement of the heating and air conditioning system in the county courts building, roadway and bridge deck resurfacing, and similar projects are items that must be done in regular cycles that often range from ten to twenty years. However, the price tag for even one such project is often more than the annual public works operations and maintenance budget can absorb.

In many governmental agency budgets, major repair projects are included in the "Capital Projects" budget because of their cost. But that does not always mean that the funds will be available when needed to make major repairs although such repairs would minimize annual operating costs and avoid loss of the facility altogether. When resurfacing of ten miles of arterial streets must compete with a new fire station or public park in a rapidly developing area, needed major maintenance is likely to become "deferred maintenance" for another year.

Back in the 12th century, the rulers of London established the "Bridge House Estates Trust." That entity has accumulated investments with a current value of around \$470 million and is responsible for four bridges over the Thames River. The repairs being made to the Tower Bridge are expected to give the old structure another sixty years of life. Who knows that the results would be if a public referendum were needed to sell bonds and earmark taxes for debt ser-

vice for those bonds for the bridge repairs?

Establishing a trust fund for major maintenance is a common feature in the covenants of revenue bonds sold to finance construction of airport facilities, or toll roads and bridges. The buyers of those bonds want to know that the facility that generates the revenue for debt service will be properly maintained so that it attracts users and fee payers. But that philosophy of setting an amount aside every year in a special fund for major repairs is not often used for facilities built with general tax obligation bonds or from annual tax revenues.

Budgeting for major maintenance requires developing maintenance plans for each facility, identifying the work that will be needed at intervals throughout its useful life, establishing a schedule for that work, and estimating the costs. If the major maintenance fund is unable to make investment income, in-

flations of costs must also be calculated. And the fund must be *untouchable* for expenses that do not fit the major repair criteria.

Impossible, you say! Well, public works managers can begin by separating their major repair costs from their annual operating and maintenance expenses when they develop their annual budget. And even if they are forced to merge those projects into a long list of candidates for capital project funding, they should be identified for what they are—an investment to preserve an asset of major public need and value.

Public agencies need to adopt the motto, "If we can't maintain it, we don't build it." Planning for major maintenance and establishment of financial structures to provide the funding for that maintenance at the right time are essential ingredients of a public facility management program.

DFK

Build bridges to elected officials

Who makes the case for sound infrastructure in your community? Are you shouldering the burden alone? Do you often feel like yours is a "voice crying in the wilderness?" Are you stymied by the prospect of having to bring your mayor or city council members up-to-speed on infrastructure issues?

If any of these questions hit home, you may find a much needed resource at this year's International Public Works Congress and Exposition. The Elected Officials Program, now in its third year, provides a one-stop opportunity for top elected officials to learn about the latest issues pertaining to public works while networking with their peers from across North America.

The Elected Officials Program offers a variety of informative sessions and a technical tour to acquaint mayors and city council members with the public works professional's point of view. Slated for Sunday and Monday, September 19-20, the program includes a

presentation by a city engineer, information on APWA resources, a tour of the City of Phoenix solid waste management facility, and a keynote address by Lic. Benjamin Clariond Reyes-Retena, Presidente Municipal, Monterey, Mexico. This highly influential mayor will discuss the infrastructure challenges and innovations in Monterey, which has a population of 1.9 million people.

Infrastructure solutions can only be achieved adequately with a comprehensive and cohesive approach from public works professionals and public officials. APWA's Elected Officials Program can give your mayor or city council members more of the information they need to make decisions favoring sound infrastructure management.

For more information or a complete schedule of program events, call Jayne Mixon at APWA headquarters, (816) 472-6100, ext. 594.

CLH



MEMORANDUM, City of Lodi, Public Works Department

To: City Council
City Manager

From: City Engineer

Meeting Date: March 7, 1995 (Shirtsleeve Session)

Subject: Discussion of Water Rate Adjustment; DBCP Update

Introduction

The purpose of this report is to present background information to support specific actions on spending and rate increases staff intends, unless the City Council directs otherwise, to place on upcoming Council agendas in March and April. These actions are summarized at the conclusion of this report. Staff feels past administrative and political efforts have not, nor will they in the foreseeable future, allow us to continue to defer spending money on DBCP. The rest of this report describes those efforts, updates our water supply situation, reviews solutions and costs, and recommends a course of future actions in addition to these immediate actions.

Background

The City Council has been briefed on numerous occasions over the past few years on problems with the water system's physical condition, water quality (DBCP) and financial condition. The two most recent reports and their outcomes were:

- 1) November 1993 "Water Utility Status Report" presented on November 30 and December 7, 1993.

This report provided background on the development of the water system, water treatment and supply needs, operation and maintenance needs, capital improvement (including equipment) needs, revenue and expenses, water rates and rate structure issues. Staff recommended a number of actions and options for consideration. They were, as stated in the report:

- *Make a decision on DBCP as soon as possible - We suggest that the Council make a decision, possibly at a special evening Council meeting to approve the Well 4R project or provide other direction to staff.*
- *Decide on how to approach a rate increase - We see two options here:*
 - *Adopt an immediate increase of 10 to 15 percent on the flat rate and base meter charge and follow up with decisions on the remaining issues and rate increases; or,*
 - *Act quickly on the remaining issues and adopt a rate increase plan.*

The remaining decisions and issues that need to be addressed are:

- *Well equipment replacements*
- *Distribution system replacements & valve maintenance*
- *Appropriate level of reserve in the water fund*
- *Water meter retrofit program*
- *Policy on contributions to the General Fund*
- *Policy on minor rate adjustments for inflation*
- *Water rate study including*
 - *who should do the study*
 - *preference for rate mechanism*
 - *charges for additional services*

The Council was reluctant, because of uncertainties, to make any decisions or provide direction on addressing DBCP and the related financing and water rate issues. At that time, there was an active political effort underway to either change the regulations or find some favorable interpretation of the regulations related to DBCP that would be less costly to Lodi. Staff was directed to perform a water rate survey of other cities and check with a consultant on the cost of doing a formal rate analysis. Also, as part of the following budget process, Council adopted policies that addressed the two policy items listed above. The General Fund contribution (in-lieu tax) was set at 20% of prior year revenues, down from roughly 27% to 29% in recent years; and, a policy on minor rates adjustments was adopted; however, there were no rate adjustments made for the current fiscal year.

2) May 24, 1994 Shirtsleeve Session

At this meeting, staff presented more information on the needs and benefits of continuous replacement of old mains and other system components. Staff also presented the results of a study on the use of large water storage tanks to provide peak capacity rather than using additional wells that would require DBCP treatment units. The benefits from building two, one million-gallon storage tanks, one on each side of the City, were that we could eliminate the need for five new wells and save millions of dollars compared to treatment. The down side was that the up-front cost was higher and there was no guarantee that other treatment would not be needed in the future. Also, there was the strong possibility the system would need routine disinfection (permanent chlorination) at additional cost.

In addition, the Council was presented the results of the previously requested water rate survey. Lodi's flat-rate water service charges were 44% below those of the comparable cities surveyed and metered rates were between 45% and 68% lower for typical residential uses.

Staff received no direction on the DBCP/water tank issue and was directed to continue developing recommendations on system replacement and water rate increases. Our administrative and political efforts to obtain relief were still underway; however, they were soon to come to an end, as is described in the next section.

Political Efforts

On July 28, 1989, the State of California adopted 0.0002 parts per million (0.2 parts per billion) as the Maximum Contaminant Level (MCL) for Dibromochloropropane (DBCP) in drinking water. In 1990, the City faced the possibility of eight to ten wells being out of compliance with the new MCL.

The California Department of Health Services, Office of Drinking Water (DHS), issued Lodi an amended Drinking Water Permit which put Lodi on a compliance schedule including the installation of Granular Activated Carbon (GAC) treatment systems at several well sites. The City's first (and only) GAC system was put on line in April 1992.

With citizens and the City Council appalled at the high cost of the one treatment system (\$470,000) for such a small theoretical health benefit, the City sought relief from the State regulations. After numerous public meetings, the Mayor appointed an ad hoc citizen committee to help obtain regulatory relief.

The City developed a proposal to keep either the annual or six-month average DBCP exposure to less than the MCL to every water customer. With the help of an environmental law consulting firm, Lodi's proposal was prepared and presented to DHS. DHS ruled that the proposal could not meet California current drinking water regulations unless they granted an official variance or waiver, but they had never granted such a variance or waiver without legislative direction.

State Senator Johnston was willing to sponsor legislation that would allow a variance or waiver to Lodi based upon no opposition from DHS at that time. On January 12, 1993, a meeting was set in Sacramento to review technical language in the bill and talk over strategy. At this meeting, DHS representatives opposed Lodi's proposal. In subsequent meetings, DHS's main argument was that Lodi's proposal would not be allowed under United States Environmental Protection Agency (EPA) Federal regulations. A ruling from the EPA had previously been requested in December 1992. A February 17, 1993 letter from the EPA Regional office in San Francisco stated that Lodi's proposal did not meet EPA regulations. (The author of the letter never spoke with Lodi staff before writing the letter.) Thus, legislation was not pursued.

In April 1993, Lodi met with officials at the EPA Headquarters in Washington to have the Regional EPA opinion reevaluated. Lodi staff was encouraged by EPA's statements at that meeting. However, an October 4, 1993 letter from EPA Headquarters gave a negative response to Lodi's proposal based on the inability to meet Federal regulation technicalities. We also felt there were some misunderstandings of Lodi's proposal. In a follow-up phone call with an official at EPA Headquarters, Lodi was encouraged to rewrite the proposal addressing the technicalities and to work with State of California officials first.

Lodi staff redrafted the proposal and contacted DHS officials to arrange for a meeting. At this meeting, the Acting Director of DHS directed their staff to work directly with Lodi staff on the new draft proposal before reapproaching EPA. However, without ever communicating with Lodi in any way, a copy of Lodi's draft proposal was sent to EPA Headquarters along with a letter asking for an opinion on Lodi's draft proposal meeting Federal regulations. EPA Headquarters replied in five days with another negative opinion. After the meeting at which cooperation was directed, DHS sent Lodi a letter denying the proposal without ever contacting Lodi staff.

At this point, the new Director of DHS in Sacramento was contacted and a meeting was set up on June 16, 1994 with Lodi presenting and explaining the proposal to DHS officials, Office of Drinking Water staff, California-EPA toxicologists, and staff from Lodi's State Senator and Assemblyman's offices. Another person in attendance, without Lodi's forehand knowledge, was the EPA Regional official who had written the February 17, 1993 negative response.

After Lodi's proposal was presented in detail, the next person to speak was the EPA Regional official. He again gave the same response as in his earlier letter saying Lodi's proposal did not meet Federal regulations, therefore, DHS could not approve it. The meeting went downhill from there. In an August 11, 1994 letter, DHS denied Lodi's proposal due to EPA's objections. No further contact has been made with EPA or DHS concerning Lodi's proposal.

While the above was occurring, the City had DHS delay deadlines in the amended Drinking Water Permit for further GAC treatment installations. City staff also came up with a strategy to better utilize existing "in compliance" wells during peak hours and to use the remaining four to six "out of compliance" wells as "standby sources". As a result of these efforts, along with the good fortune of not having wells break down during summer months and Lodi's then-active

water conservation program, the City of Lodi has, to date, delivered water without violating any State or Federal drinking water regulations relating to DBCP.

*A "standby source" can only be used for emergency purposes for up to 15 days per year and cannot be used to meet water demands from growth.

Water Supply Problems - Long Term

The City's Water System Master Plan provides for continued construction of new water wells to meet increased peak demands due to additional growth. Funding for these wells and the major water mains are included in the Development Impact Mitigation Fee Program. The Plan provides for most of the new wells to be located near the Mokelumne River where no DBCP contamination is expected. The remaining wells would be in the planned industrial area east of Highway 99 and residential areas in the southwest to provide adequate fire flows. (See Figure 1; all Figures are at the end of this report.) Wells also need to be spaced apart to avoid pumping interference, as represented by the large circles on the map. The Master Plan and Fee Program included the assumption that only half of the new wells will need GAC units. However, it now appears this assumption may be too optimistic.

Figure 2 shows the same well locations as Figure 1 plus shaded areas that have chemical contamination problems as of the beginning of this year. The contaminated areas are based on readings from existing wells and various test wells and private wells sampled by the City. At this point, seven of the fourteen planned wells are clearly located in contaminated zones. Four additional planned wells (A, H, I and K) are bordering contaminated areas. Based on the DBCP history of existing wells, it is very difficult to predict what will happen in the future with these wells. For example, of the eight existing wells in the area with DBCP under the Maximum Contaminant Level (MCL), six have had past readings that were over the MCL. There is also a real possibility that placing new wells inside the "clean" area will pull in DBCP and cause existing wells to go out of compliance.

The problem is particularly severe in the industrial area east of Highway 99. With the limited number of water mains that cross Highway 99, the system needs wells in that area to meet local industrial demands. We presently have constructed three of nine planned wells east of Highway 99 and of those three, only one (Well 11) is now usable. Well 10 is out of service, most likely permanently, due to bacteria and other problems and the other, Well 4, has high DBCP levels.

These contamination problems are not limited to DBCP. The downtown area is also having problems with contamination from other industrial chemicals, mainly Trichloroethene (TCE). This problem has shut down Well 2 and threatens Well 24.

The DBCP and TCE contamination areas restrict the location of possible future planned wells and replacement wells unless we install treatment units. Based on a rough analysis of the uncontaminated area, there are only four potential sites available using City-owned property and another four or five sites using other publicly-owned land, if they could be acquired. Obviously, many more sites could be available if the City were to purchase private property, although there is little vacant land within the uncontaminated area, and because of the required clearances to sewers and other requirements, buying developed property would be expensive.

While these problems are certainly ones to be reckoned with on a long-term basis, they have also become a serious short-term problem due to recent events as described in the next section.

Water Supply Problems - Short Term

As was described in the earlier reports, the City's water system has no significant water storage aboveground. The groundwater table is our "storage" and, to get the water, we use wells. Thus, we need to have enough wells to meet peak demands. These demands occur in the early morning and late evening throughout the summer. According to the Water Master Plan, we should have 25 wells available to meet current demands, allowing for a 20% safety factor. Without the 20%, we should have 20 wells.

Last summer, only 17 to 19 "in compliance" wells were available. The number fluctuated due to mechanical problems, construction schedules and changing contamination levels. The out-of-service wells were:

Well	Reason	Comments/Remedy
<i>(wells out all summer)</i>		
10	Bacteria, taste and odor	Drill new well at new site
18	DBCP	GAC unit
22	DBCP	GAC unit
23	DBCP	GAC unit
25	Under construction	Will be finished spring 1995
<i>(wells out part of summer)</i>		
2	TCE	Off after mid-July/drill new well at new site
4	Under construction	Put on line in late July, off due to DBCP in early September/GAC unit
6	Meter problem	Only off a few days in July/meter fixed
9	Bacteria	Used late July through late August/possible disinfection unit

Last summer, we had 24 days in which during part of the day all available wells in DBCP compliance were running. Had there been an increase in demand, a fire or a water main break, we would have had to turn on one or more of the contaminated wells to maintain system pressure at minimum levels. There were an additional 25 days in which all but one well was running. Well availability last summer is summarized graphically in Figure 3. We got through the summer with careful system operation and monitoring and a strong water conservation effort.

We finished out last summer with 17 wells on line. Since then, Well 20 has again gone out of DBCP compliance and new Well 25 is nearing completion. Well 9's bacterial problems are still being investigated and we may or may not be in a position to use it this summer. Thus, we will start the summer of 1995 still with 17, possibly 18, wells assuming nothing else goes wrong. **Last summer there were 31 days in which the demand exceeded 17 wells. This situation is bordering on an emergency assuming the City intends to comply with the safe drinking water standards.**

Even if we had the same number of wells as were available last year, there is cause for concern. While residential growth has been relatively slow, there has been some commercial and industrial growth. Based on building permit data, this total demand from growth could require the capacity of two-thirds of a well. A knocked over fire hydrant could easily use the capacity of a whole well. Of more concern is the increased consumption we expect from the drought-is-over mentality resulting from the wet winter. While winter and (hopefully) spring rain will likely reduce total consumption, it will not reduce the peak demand for water we experience in the hot summer months.

The consequences of running out of well capacity range from merely inconvenient to disastrous. At low pressures, dishwashers, sprinklers and similar automatic water using devices do not function properly. Industrial processes could be impaired to the point of product damage. The threat of system contamination from backflow is increased. And, of course, fire fighting could be severely impaired.

Solutions

There are no easy solutions to the problems faced by the Water Utility and its customers, the citizens and businesses of Lodi. Staff firmly believes these customers automatically expect that we provide water that meets their supply needs and the requirements of the law and that it be done with a high degree of reliability at the lowest possible cost. Given that, the short-term and long-term solutions described below are based on the following assumptions:

- We will take the necessary steps to start the summer with at least 20 wells in service;
- We will take advantage of the lowest cost financing available, which is the previously approved State Safe Drinking Water Bond loan of just under \$5 million at 3.41% interest; and,
- We will adjust water rates in tolerable increments to handle both the loan payments and restore the Water Utility to proper operational and financial status.

The specific short-term actions that need to be acted upon immediately are:

- 1) Appropriate \$75,000 from the Water Fund for Well 9 disinfection equipment and authorize staff to purchase and install the equipment on an emergency basis.

Well 9 has had intermittent bacteria problems over the past two years and we have not been able to determine the source. While there is some small hope that it could clear up in time for summer, we should plan to install a continuous disinfection system. We could use an existing liquid/gas chlorination unit. However, customer complaints and stringent monitoring and notification requirements due to storage and use of hazardous chlorine suggest we consider alternatives.

Other types of disinfection equipment include chlorine generators, other chlorine systems, ozone generators and ultraviolet (UV) light. Given site constraints and location (in a residential neighborhood), and maintenance and cost issues, staff selected UV as the best alternative. UV disinfection utilizes no chemicals and does not change the water other than killing bacteria, viruses and molds. The unit consists of a stainless steel vessel housing UV lamps and control panel. The unit would fit in roughly a six-foot square area. Maintenance consists of periodic cleaning and lamp replacement which can be done by City personnel.

- 2) Authorize staff to obtain bids for a GAC unit at Well 4.

The entire Well 4 project, located at the Reid Industrial Substation, was approved in a previous budget and the well was used last summer while DBCP compliance testing was done; but, staff was directed not to proceed with the GAC purchase. This GAC unit, approximately \$810,000, is included in the State loan amount. We would utilize the specifications for the previously designed units at other wells and have the successful bidder supply detailed plans for Well 4. The ability to use this high-capacity well will provide a much needed source of supply in the industrial area east of Highway 99. It will also remove substantial amounts of DBCP from the groundwater and may improve our chances of keeping Well 1 in compliance due to the relative location of both wells in the contaminated zone.

- 3) Authorize staff to have plans and specifications prepared and obtain bids for a one million-gallon water tank at the Well 4 site and complete the site improvements.

This tank is also included in the State loan project (\$816,000). Completion of the well and site improvements will total \$433,000, some of which has already been spent on drilling and utilities. The completed Well 4 and tank will eliminate the need for three future wells in the DBCP-contaminated zone.

Staff will need to use outside engineering services for some of this work, mainly the water tank and its appurtenances. Part of their work will be to address the disinfection issue and find solutions that will not require chlorination of the water discharged from the tank to the water distribution system.

- 4) Authorize staff to update and utilize plans and specifications we have "on the shelf" to purchase GAC units for Wells 22 and 23.

Council earlier approved preparation of plans and specifications for GAC on a number of wells, including Wells 22 and 23, however, we were not authorized to go to bid. This work will be fundable under the State loan at a cost of approximately \$920,000.

- 5) Restore funding to the Water Conservation Program.

The adoption of the current budget reduced the Water Conservation Program by \$11,000, or approximately 25%. In order to help maintain our water supply during the critical summer of 1994, water conservation efforts were kept up at earlier levels. This has left practically no funding for the remainder of the fiscal year, at a time when we need to start increased efforts for summer 1995.

- 6) Obtain specific Council designation of wells which exceed the DBCP MCL as "standby sources" for use on an emergency basis.

To meet emergencies, State regulations allow the use of "standby sources" which exceed MCL's for up to 15 calendar days, not exceeding five consecutive calendar days and that the State be notified of the use and reason. Even with the above measures, due to construction time requirements and other unforeseen circumstances, we may need to use these wells.

The long-term solutions are only generally described below and will require more study and discussion. However, we see them as something we must pursue in the upcoming budget process, and over the next year, if we are going to provide the citizens with a reliable water supply:

- 1) Enhance water conservation efforts, both in terms of education and enforcement programs and through the use of water meters and rate structure.

The cost effectiveness of a strong water conservation program has previously been demonstrated, including significant cost savings in wastewater treatment. This program is not only vital for this summer but will help reduce long-term costs by reducing the need for additional capacity if we can maintain lower water consumption habits. Staff will include recommended increases in the Program in the 1995/97 budget submittal.

Recognizing the unpopularity of water meters, staff feels the City should adopt a water rate structure that encourages conservation and the use of meters. The flat rate should be relatively high compared to the base metered rate so that a customer who uses little water would pay less than someone who uses an unrestricted and unknown amount of water.

Such a water rate structure should be developed by a professional experienced in utility rates. An outside professional would bring more experience and fresh ideas in rate setting. In addition to saving staff time, the work could be done in a more timely manner. The cost would be about \$10,000 to \$15,000 depending on the scope of work.

- 2) Increase our efforts in replacing the oldest parts of the water system and in maintaining the rest of the system.

The November 1993 Report detailed a number of deferred maintenance problems. These included well and equipment replacements, main replacements and valve maintenance. The lack of valve maintenance alone contributed significantly to the lengthy delay in shutting down a recent broken water main incident on West Lodi Avenue.

- 3) Plan to install GAC units on future wells as they are needed for growth, funded by impact fees.

New wells in the contaminated areas will be needed and they will almost certainly need GAC units. Since the capital funding is included in the City's development fees, this should not be an issue. We should not expect new residents to live with water supply problems due to our reluctance to spend money on GAC units when they have already paid for them.

- 4) Explore construction of a second water tank in the southwest area.

Before we decide on how to provide additional capacity to accommodate growth in the southwest area, we will have experience with the tank at Well 4 and will know

more about the fate of DBCP in the groundwater. Although we suspect the tank will be the best approach, we should evaluate that project further.

Finances

Excluding the \$75,000 for Well 9, the total capital cost for the short-term action items mentioned above will be approximately \$2,985,000, all funded under the State Loan Program. With that amount, plus the \$822,000 the City has already borrowed on the loan and the State's 5% administrative fee, our annual payments will be about \$271,000 for 20 years. This item alone represents 12% of the annual water utility revenue when the in-lieu tax is included.

While these costs of nearly \$3 million seem high, we are gaining the equivalent capacity of over six wells, which would cost over \$2 million to construct even if we had uncontaminated sites available. However, when financing costs are considered, the annualized costs are practically identical. Obtaining open market financing would mean an interest rate of about 8%. When compared to the State loan rate of 3.41%, and the number of wells needed to provide the equivalent capacity, the annual cost difference is less than \$20,000 (see Figure 4).

The above costs are only capital items. Operating and maintaining the existing unit plus three additional GAC units will add approximately \$158,000 per year to the operating budget on the average. This will require an additional 7% increase in revenue.

In addition to DBCP contamination problems, maintenance and capital replacement needs described in the November 1993 Report need to be addressed. This will add roughly \$700,000 to the annual budget. Financing that amount would mean an additional 26% increase in revenue.

While the problems and costs related to DBCP and deferred maintenance are relatively well established, the November 1993 Report mentioned other potential costs for water treatment to meet possible new standards for such things as radon, arsenic and disinfection. While there is some hope that new, costly regulations will be slow in forthcoming, there are still substantial unknown costs for dealing with existing regulations covering known potential problems such as TCE and PCE.

Water Rate Comparison

Clearly, the above and past discussions have been leading to a water rate increase. While one can make a strong argument that what other agencies charge for water doesn't matter, comparisons are always requested, either by the Council, the public, or even staff. Staff has recently updated the last rate comparison requested by the Council and presented in May 1994. The average flat-rate charge, for those cities that have one, is still 43% over Lodi's flat rate for a three bedroom home.

Since May, 1994 average metered rates have increased, both in the base charge and charges for water, 5% and 16% respectively. While the average base charge is slightly below Lodi's, when various estimates of water usage are considered, Lodi's rate is significantly lower, by more than 60%, for typical residential customers, and over 110% for commercial and industrial customers. A summary of the rate comparison is shown in Figure 5 and the details of other cities' rates are shown in Figure 6.

Of the twelve cities surveyed, only five have base metered charges that include some allowance for water to be used. Lodi does this also, but the amount is unreasonably high as was discussed in the November 1993 Report. Of those that include an allowance for water,

the average amount is 15,000 gallons, slightly over half of that allowed in Lodi's rates (27,800 gallons for a ¾-inch meter). And, while their base charge is only 6% higher than Lodi's, their water charge is 62% higher. In the final financial analysis, the amount, if any, of water included in a base meter charge winds up being covered in the base rates. The choice of having an allowance or not is more a matter of policy, and, given the discussion under Item 1 of long-term solutions above, staff would recommend that no water be included in the base charge and the rates set accordingly.

Water Rate Increase

The November 1993 Report included discussion of a number of issues regarding water rate increases. Some were minor (charges for service calls, construction water, and fire services) and can be addressed in the long term. Others are more important, such as the metered water issue discussed above and the phasing of rate increases since these can mean thousands of dollars to high volume users, mainly industries. One of the main requests we have had from industries is that we avoid large, infrequent increases without warning. In addition to the assumptions mentioned earlier regarding the water system, the following assumptions were made in developing the specific actions listed at the end of this report:

- Rate increases should be stepped six months to one year apart;
- The first increase should minimize the impact on large water users/industries;
- The first increase should be implemented as soon as possible, thus, changes to the existing rate structure should be minimal; and,
- Subsequent increases should consider improving equity between flat-rate and metered customers and should be planned in advance to minimize the impact on large water users/industries.

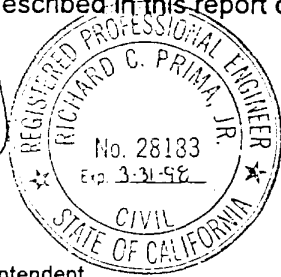
Recommended Actions

At the March 15 City Council Meeting, staff will ask for the following authorizations and actions. As usual, awards of contracts will be brought back to the Council for approval.

- 1) Appropriate \$75,000 from the Water Fund for Well 9 disinfection equipment and authorize staff to purchase and install the equipment on an emergency basis.
- 2) Authorize staff to obtain bids for a GAC unit at Well 4.
- 3) Authorize staff to have plans and specifications prepared and obtain bids for a one million-gallon water tank at the Well 4 site and to complete the site improvements.
- 4) Authorize staff to update and utilize plans and specifications we have "on the shelf" to obtain bids for GAC units for Wells 22 and 23.
- 5) Approve a special allocation of \$11,000 for the Water Conservation Program.
- 6) Designate wells which exceed the DBCP MCL as "standby sources" for use on an emergency basis.
- 7) Set a public hearing for April 19 to consider increasing water rates starting June 1, 1995 to address the DBCP issue and start on the capital and maintenance issues. The recommended rate adjustments are:
 - a) Increase flat rate charges 22%.
 - b) Increase base metered-rate charges 10%.
 - c) Increase the rate for metered water 5%.
 - d) Delete the allowance for water used in the metered base rate.

Staff welcomes any comments regarding these recommendations or other suggestions on addressing the problems described in this report or the previous reports.


Richard C. Prima, Jr.
City Engineer



RCP/lm

cc: Water/Wastewater Superintendent
Chamber of Commerce
Lodi Industrial Group
DBCP Committee

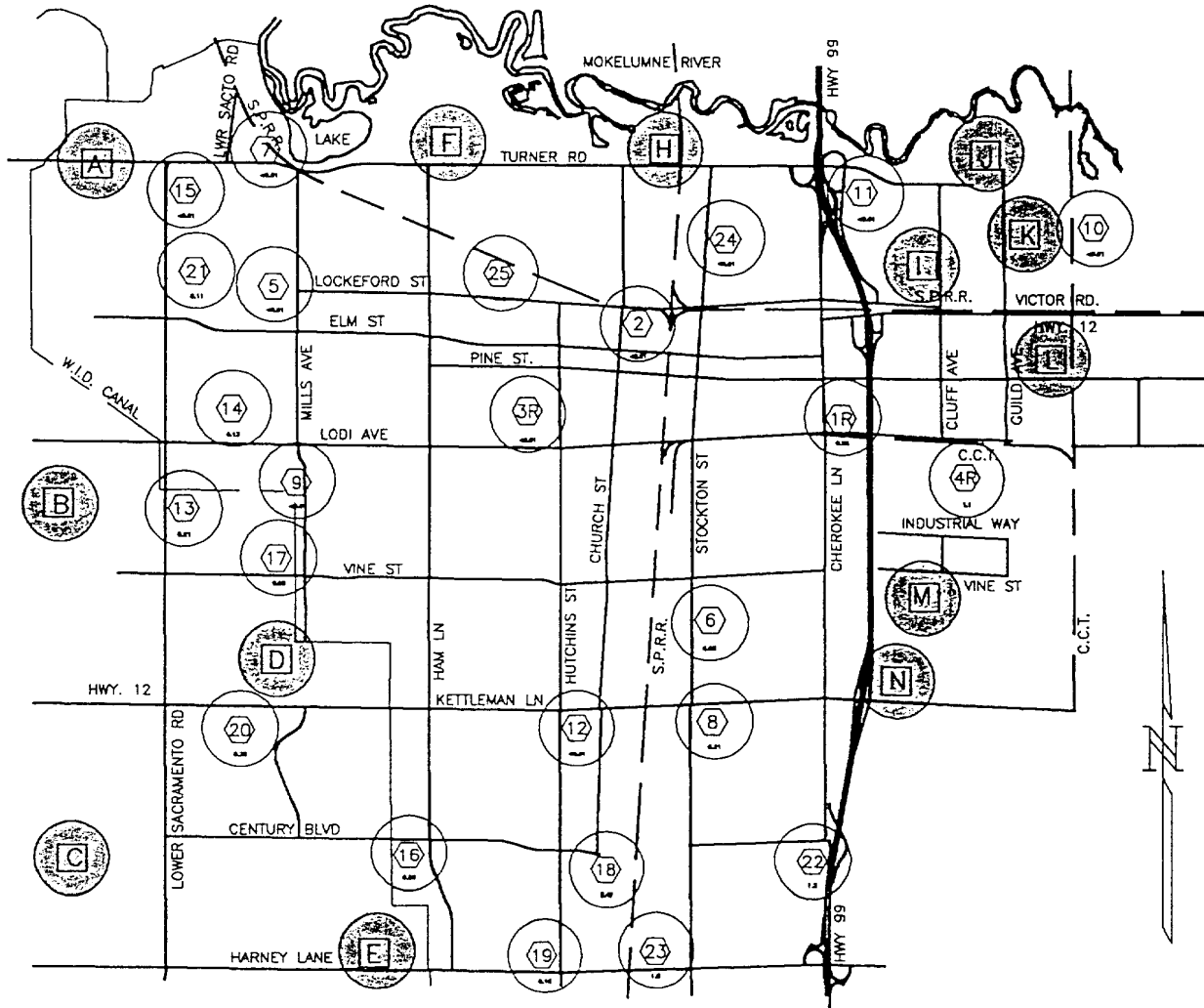
Figure 1



CITY OF LODI

PUBLIC WORKS DEPARTMENT

CITY WELLS



WELL NO.



PLANNED WELLS

M:\OPEN\WELLS\WELLFIG2

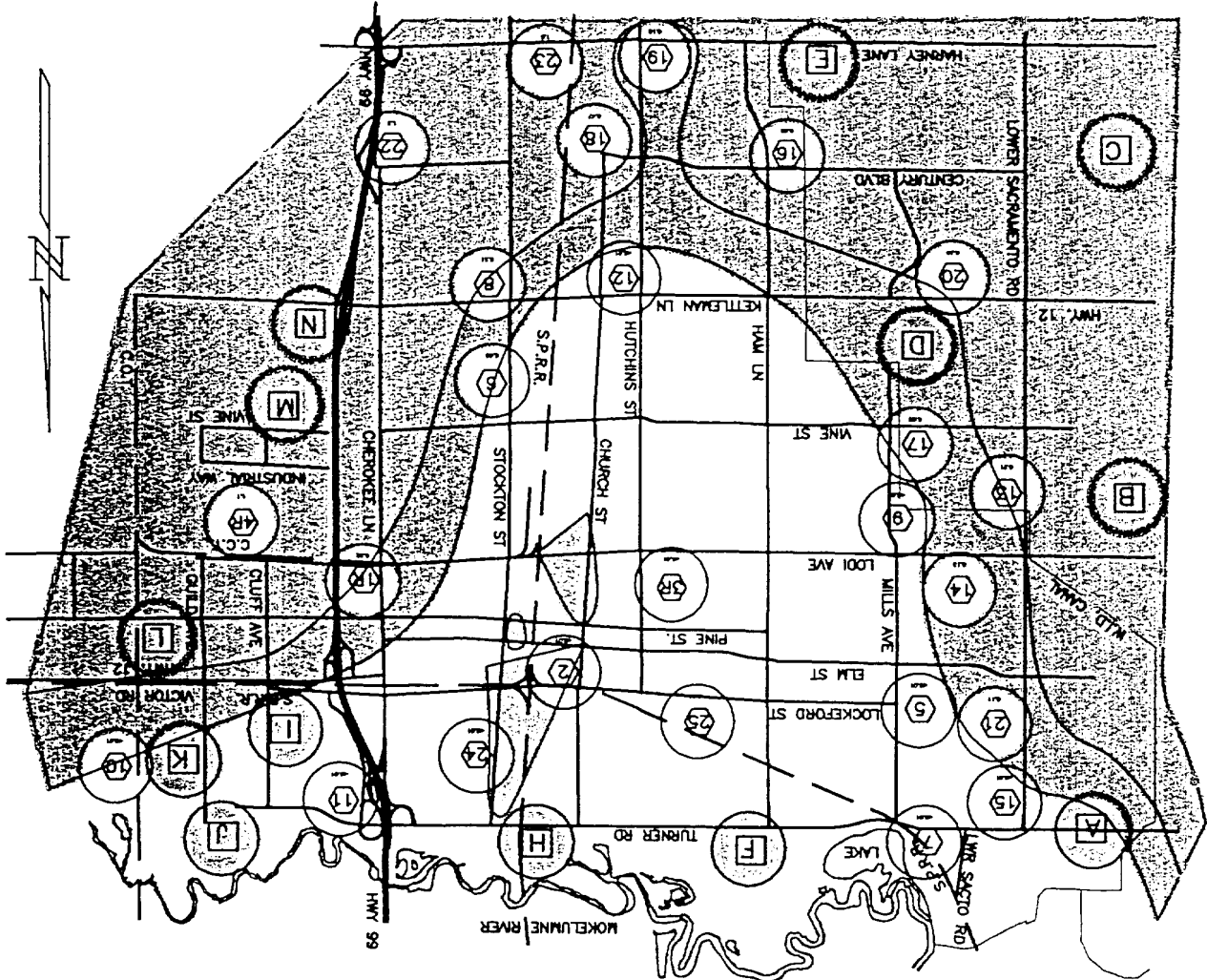
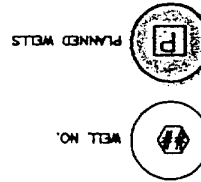
LEGEND

Areas with TCE/PCE contamination per State

Areas with DBCP under MCL

Areas with DBCP over MCL

DBCP - (Based on data from existing wells and some test well sites)



CITY WELLS
DBCP STATUS

CITY OF LODI
PUBLIC WORKS DEPARTMENT



Figure 3

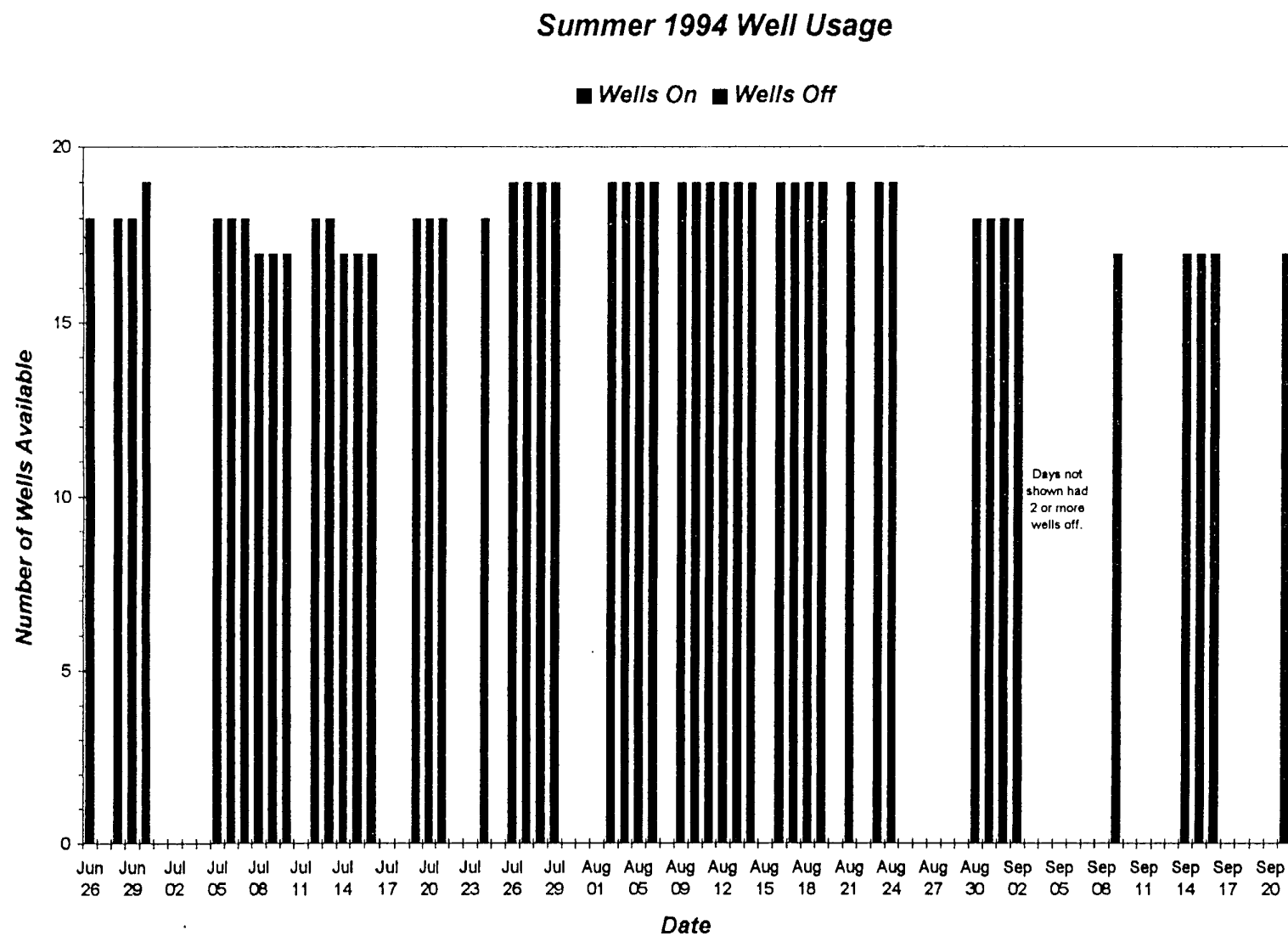


Figure 4

Water Supply Capacity Costs

Source	Peak Capacity	Capital Cost	Annual Payment with State Loan	Capital Cost for Equivalent Capacity from New Wells	Annual Payment for Equivalent Capacity with Other Financing	Annual Difference
Typical New Well	1,400 gpm	\$ 330,000				
Well 4R w/GAC & Tank	6,500 gpm	\$ 2,065,000	\$ 147,600	\$ 1,532,000	\$ 156,000	\$ 8,400
Wells 22 & 23 GAC	2,775 gpm	\$ 920,000	\$ 65,800	\$ 654,000	\$ 66,600	\$ 800
Wells 4R, 22 & 23	9,275 gpm	\$ 2,985,000	\$ 213,400	\$ 2,186,000	\$ 222,600	\$ 9,200

	State Loan	Other Financing
Term:	20 yrs.	20 yrs.
Interest Rate:	3.14%	8.00%

City of Lodi

Water Rate Survey

February 1995

Rate Comparison Summary

	Quantity	Lodi	Survey Avg.	% Diff.	\$ Diff.
Res.	Metered/Mo.*	\$10.58	\$18.63	- 76%	\$8.05
Res.	Flat Rate/Mo.	\$10.58	\$15.08	- 43%	\$4.50
Ind.	1 MGY**	\$381	\$906	- 138%	\$525
Ind.	10 MGY	\$3,810	\$8,360	- 119%	\$4,550
Ind.	100 MGY	\$38,100	\$82,758	- 117%	\$44,658

- Uses averages of Lodi metered residential (for monitoring purposes only) for each month.
Lodi's metered residential uses Lodi's current commercial/industrial rate and a 3/4" meter.

** Million Gallons per Year

City	Base Charge	Water Charge	Total for typical residence	Comments
Davis				
Flat Rate	\$13.44 /mo.	n/a	\$13.44 /mo.	\$7.61 plus \$0.001166 per square foot lot
Metered	\$10.78 /mo.	\$0.61 /100 cu. ft.	\$23.01 /mo.	Water charge increases to \$0.66/100 cu. ft. for amount over winter use "base line".
Escalon				
Flat Rate	\$32.92 /mo.	n/a	\$32.92 /mo.	flat rate includes \$11.39 "Ready to serve" charge
Metered	\$11.39 /mo.	\$0.7393 /1000 gal. \$0.5455/100 cu. ft.	\$22.48 /mo.	\$0.8132/1,000 gals. for amount over 25,000 gal.
Madera				
Flat Rate	\$9.50 /mo.	n/a	\$9.50 /mo.	Increases \$0.11 per additional front foot. (Recent increase of \$0.50 for Water capital fund)
Metered	\$12.67 /mo.	\$0.67 /1000 gal. \$0.501 /100 cu. ft.	\$12.67 /mo.	Base charge includes first 15,000 gal.
Manteca				
Metered	\$7.15 /mo.	\$0.35 /100 cu. ft.	\$7.17 /mo.	for 5/8x3/4 meter; for 1", base charge is \$10.75/mo.; water charge is \$0.60/100 cu. ft. for amount over 30,000 cu. ft. (Base incl. first 2,000 cu.ft.)
Merced				
Flat Rate	\$14.34 /mo.	n/a	\$14.34 /mo.	\$14.34 for first 10,000 SF lot, per table up to \$39.90 for 46,000 SF
Metered	\$17.78 /mo.	\$0.504 /100 cu. ft.	\$17.78 /mo.	Base charge includes water allowance up to amount under quantity rate (26,390 gals for 3/4").
Roseville				
Flat Rate	\$10.80 /mo.	n/a	\$10.80 /mo.	For single family lot between 4,901 and 8,900 SF; per table for other sizes
Metered	\$8.25 /mo.	\$0.33 /100 cu. ft.	\$11.57 /mo.	First 1,000 cu. ft. in base charge; rate increases over 5,000 cu. ft. (37,400 gal.)
Stockton (City)				
Metered	\$13.13 /mo.	\$0.633 /100 cu. ft.	\$25.82 /mo.	\$0.539/100 cu. ft. for amount over 30,000 cu. ft.
Tracy				
Metered	\$8.60 /mo.	\$0.75 /100 cu. ft.	\$23.85 /mo.	Water charge increases to \$1.05 over 1,200 winter/1,800 summer cu. ft., \$1.20 over 1,900w/2,900s cu. ft., \$1.30 over 19,000w/28,000s cu. ft. and decreases to \$0.56 over 1,000,000 cu. ft.
Turlock				
Flat Rate	\$13.45 /mo.	n/a	\$13.45 /mo.	\$7.05 for 0 to 5 rooms, \$7.90 for 6-8, \$8.70 over 8 plus charge based on parcel area (\$5.55 up to 5,500 SF, \$0.85 for each add'l 2000 SF)
Metered	\$10.95 /mo.	\$0.47 /1000 gal. \$0.352/100 cu. ft.	\$18.00 /mo.	Water charge decreases to \$0.40 over 50,000 gallons, \$0.17 over 150,000 gallons
Vacaville				
Metered	\$7.62 /mo.	\$0.69 /100 cu. ft.	\$23.79 /mo.	Water charge increases to \$0.98 over 1,200 cu. ft.
Woodland				
Flat Rate	\$7.45 /mo.	n/a	\$7.45 /mo.	For single family lot 5,000 to 10,000 SF; \$6.10 under 5,000 SF, \$9.10 over 10,000 SF
Metered	\$3.90 /mo.	\$1.05 /100 cu. ft.	\$24.96 /mo.	
Yuba City				
Flat Rate	\$18.75 /mo.	n/a	\$18.75 /mo.	
Metered	\$10.00 /mo.	\$0.625 /100 cu. ft.	\$12.53 /mo.	Includes 1,600 cu. ft. minimum quantity
Average				
Flat Rate	\$15.08 /mo.	n/a	\$15.08 /mo.	
Metered	\$10.19 /mo.	\$0.579 /100 cu. ft.	\$18.64 /mo.	rates per 1000 gal. adjusted to 100 cu. ft.
Lodi				
Flat Rate	\$10.58 /mo.	n/a	\$10.58 /mo.	ranges from \$7.35 for 1 bedroom to \$21.95 for 7 br's.
Metered	\$10.58 /mo.	\$0.285 /100 cu. ft.	\$10.58 /mo.	Base charge includes water allowance up to amount under quantity rate (27,800 gals for 3/4").

Typical Residence Criteria:		Units (agency affected)
Water Use:	15,000	gallons/month (2,005 cu. ft.)
Parcel Area:	5,000	square feet (Davis, Merced, Roseville, Turlock, Woodland)
Meter Size:	3/4"	size of service pipe is typically 1" minimum, meter is usually smaller
Rooms:	6	number (Turlock)
Bedrooms:	3	number (Lodi)
Lot Frontage:	50	feet (Madera)

APPENDIX III



PUEBLO WORKS DEPARTMENT WATER/WASTEWATER DIVISION

Annual Water Quality Report for 1993

keep our water customers informed about the drinking water Lodi, the City of Lodi distributes this annual report. The Water Quality Report on Page 4 is required by State law and summarizes the of water testing performed by State certified laboratories. To better understand the report please note the description of terms and abbreviations at the top of Page 4.

The City of Lodi supplies drinking water to the citizens of Lodi. The source of Lodi's drinking water is high-quality groundwater supplied through 24 City wells. These wells operate automatically on water pressure demand so that when water use increases, more wells come on line. There are plans to construct a new well at Washington School this year. Another new well drilled east of Highway 99 has not yet been completed due to the concerns for costly treatment required by the State.

All 24 City wells are interconnected through approximately 196 miles of water mains. In 1993 4.566 billion gallons of water were pumped to satisfy Lodi's water demands. This represents 7.1% less than 1986 in spite of a population growth of 24% since 1986.

Your continuing water conservation practices have really paid off! A 1993 report calculated savings to be far above the cost of the Water Conservation Program. Maintaining your water conservation efforts results in annual cost savings in operation and maintenance and averts millions of dollars in capital

expenditures, helping water rate increases stay low as possible. Please read the water conservation message on Page 3.

Drinking water provided in Lodi is of high quality and not only meets but is better than all State and Federal drinking water standards (listed on Page 4). Certain wells would individually exceed the Dibromochloropropane (DBCP) standard if used. Please see the "DBCP Update" below for more information.

Lodi takes 18 samples weekly from throughout Lodi's water distributions system for bacterial water quality. Bacterial water quality regulations were made much more stringent in November 1992 and have been difficult to meet for all non-chlorinated water systems. Consequently, Lodi exceeded the standard for "total coliforms" three months in 1993. While State health officials agreed there was no health threat from this bacteria, Lodi officials decided to chlorinate Lodi's drinking water system for a week to cut down on these harmless bacteria. An official notification was published in October 1993 and for a copy of October 1993's official notification, please call the number below.

While your water rates have been kept as low as possible, the water utility is unable to meet current funding needs. Please read the important message on water rates on Page 2.

If you have any questions about this report or the quality of Lodi's water, please call the Water/Wastewater Office at 333-6740.

DBCP UPDATE

The California Department of Health Services (DOHS) sets drinking water standards, and has set a limit for Dibromochloropropane (DBCP). This organic chemical was once a popular pesticide used in and around Lodi by area farmers until banned by the government in 1977. DBCP has been shown to increase cancer nodules in rats and mice when exposed to very high levels over their lifetimes. It is a theory these chemicals may also increase the risk of cancer in humans who are exposed over long periods of time to very minute amounts.

Although even the possibility of this theory being correct is debated by leading scientists, the California DOHS has set the drinking water standard for DBCP at 0.0002 parts per million (ppm) or 0.2 parts per billion (ppb) to reduce the theoretical risk of cancer. The theoretical risk of cancer is based on lifetime (70 years) exposure and drinking two liters (about two quarts) of water per day. Water which meets this standard is considered safe with respect to drinking water with this level of DBCP. The limit of 0.0002 ppm equals one drop in 66,000 gallons of water (it would take over 350 years to drink 66,000 gallons of water at 2 quarts/day). Theoretical risks associated with DBCP are based on 70 years of exposure, so levels in the water are not significant provided exposure occurs for a relatively short time period.

14 City wells at some point exceeded the current limit for DBCP. Of these 14 wells, the City has abandoned 4 wells, levels in 5 wells came back into compliance, 1 well has a treatment system, and 4 wells remain out of compliance (standby).

The one well site treatment facility is in operation. Constructing this one treatment facility cost over \$500,000. This well site is also a test model for construction at any other well sites.

Test wells were drilled at six potential well sites. Three sites showed no DBCP and wells are completed and being used. One site showed unacceptable conditions for a new well. Two other test sites in the north central area showed no DBCP and the site at Washington School is planned for a well sometime in 1994.

Another new well site east of Highway 99 (Well 4R) has been

drilled but it contains DBCP. That area needs a water source for future demands, but all sites in that area have shown DBCP.

Well 4R would be the highest capacity well in the system, but has shown the highest DBCP levels. The costs to install a permanent pump and install treatment would be slightly over \$1,000,000. The Lodi City Council will decide on the fate of this well site.

For the remaining 4 wells (of Lodi's 24 wells) currently exceeding the DBCP limit on an individual basis, treatment costs would total roughly \$2,000,000 for construction and \$4,000,000 for 15 years of operation and maintenance.

These 4 wells over the DBCP limit are needed for relatively short periods of time only during the peak water demand of the day during the hottest parts of the year, yet they are being regulated as if they were to run 24 hours a day, 365 days per year.

The City has proposed to the California DOHS and to the U.S. Environmental Protection Agency an alternative treatment/operation system that would save the citizens of Lodi millions of dollars, yet meet the intent of the Federal regulations. Many individuals at the two agencies have voiced support for the concept in Lodi's proposal, but as yet the official word is that the proposal just doesn't fit the regulations as written. The City is currently attempting to work with the California DOHS and Lodi's State legislators to resolve this issue.

For now, Lodi has approval from the California DOHS to put wells containing these trace amounts of DBCP over the limit on a "standby" status and they can be used for emergency purposes.

The City has also brought a lawsuit against the manufacturers of DBCP. This lawsuit will attempt to recover some of Lodi's costs including replacing wells and treating DBCP at the wells which are over the limit.

In the meantime you may consider your water safe to drink. The City will keep you informed on a regular basis of progress made to resolve this issue. If you have any questions regarding this update, please call the Water/Wastewater Office at (209) 333-6740.



(How Much) Should Your Water Rates Be Increased?



The citizens of Lodi have come to expect clean, dependable drinking water at a low price. Only you can judge if your water utility meets these expectations, but as shown in this annual report it meets stringent State and Federal standards. In a survey of over California 350 water utilities, Lodi's water rate is also among the lowest 6 percent. You are also accustomed to many services provided by the City free of charge; for example, shutting off your water when you need to make repairs, helping you locating water leaks, and quickly responding when there is a water quality problem in your home pipes.

However, your City water utility cannot continue to do all this at today's rates. The City water utility has been operating at a deficit for the past three years, relying on reserves. Either services and reliability will have to be reduced or more revenues generated.

The City must operate and maintain your water system which includes: 24 wells, 196 miles of distribution mains, an elevated water tank, chlorination systems, emergency generators, equipment needed for the installation and repair of water lines, a laboratory for water quality analyses, and a granular activated carbon treatment system on one well. There are also ever mounting administrative and operational costs to meet State and Federal regulations, including increased costs for engineering, monitoring, treatment, regulatory fees, etc.

Water utility revenues to operate and maintain the system are derived nearly entirely (96%) from the sale of water. In the 1993/94 fiscal year, the City's water utility fund is projected to fall \$60,000 short because all reserves have finally been depleted. This shortfall is in spite of belt tightening measures, such as delaying needed capital improvement projects, reducing training expenses, eliminating two employees, and freezing all management salaries since 1991.

There are also MAJOR deficiencies in our water system that we must face:

- Many distribution mains are now over 70 years old and are undersized. Currently, when a water main breaks, the City repairs only the failed portion. In the long run, this is a very expensive way to replace old deteriorating water mains. Old and failing water mains should be systematically replaced. If the life span of water mains were considered to be 70 years, we should be spending about \$836,000 annually to keep up. The sad fact is, however, that over the past few years we have been able to spend less than \$150,000 per year in water main replacements.

- Emergency standby generators at a number of well sites are needed to provide water during power outages. The current generators are WW II (50 years old) government surplus units which are unrepairable, unreliable and are failing. The City has appropriated funds for 7 units estimated at \$236,000 annually for 5 years. Due to the poor

state of the water fund, this project was delayed and the bidding process for only 5 units is now under way.

- Wells have a limited lifespan and need to be replaced for a variety of reasons. Since 1978, 7 City wells have had to be replaced. (6 additional wells were to accommodate new growth. Future growth-accommodating wells will be funded by development fees.) The costs to replace a well ranges from roughly \$200,000 to \$300,000. Even when wells do not need to be replaced, major components fail occasionally, such as electric panels (\$25,000-\$30,000), and pumps and motors (\$25,000 - \$35,000). These items should be budgeted for routine replacement and there should be a reasonable reserve for extraordinary emergency repair needs.

- Costs associated with the DBCP regulations are also a major impact. The City is working hard to keep these costs at a minimum while at the same time delivering water which meets strict State and Federal standards. For more information please read the "DBCP Update" on Page 1.

A Water Utility Status Report was prepared as directed by the City Council as part of the 1993/94 Capital Improvement Program. The report more fully details the long term financial requirements of Lodi's water utility. The report discusses other areas of concern that will need action in the near future, such as the water rate structure for metered and unmetered customers, and the fairness of having only a portion of businesses and residences metered. Also the contributions to the General Fund need to be considered. It is reasonable that City utilities make a profit (which is contributed to the City's General Fund for other functions such as public safety and recreational services). This amount needs to be decided upon by the City Council and a target for next year of 20% has been adopted.

The report lists a number of projects and programs that need to be considered; however, we do not see all of these programs being implemented in one year. Briefly they are:

Project or Program	Cost/year	Rate increase*	
DBCP Loan payment (existing amount)	\$ 51,000	1.8%	\$ 0.19
DBCP loan payment (Well 4R project)	\$ 81,000	2.9%	\$ 0.31
DBCP filter O&M (incl. well 4R)	\$ 95,000	3.4%	\$ 0.36
Well & pumping equip. replacement	\$ 102,000	3.6%	\$ 0.38
Emergency generators	\$ 236,000	8.4%	\$ 0.89
Main replacement (70 yr cycle)	\$ 836,000	29.9%	\$ 3.16
Valve maintenance program	\$ 30,000	1.1%	\$ 0.12
Meter retrofit program over 30 yrs	\$ 550,000	19.6%	\$ 2.07
Increase revenue to current expenditures	\$ 200,000	7.1%	\$ 0.75
Increase revenue to recent expenditures	\$ 340,000	12.1%	\$ 1.28
Build reserve of \$300,000 in 5 yrs	\$ 60,000	2.1%	\$ 0.22

* The percent increase is above existing rates and the dollar amount is the increase per month for a 3 bedroom home (currently \$10.58/month).

There are tough decisions to be made by the City Council. They need your informed opinion. If you would like a full copy of the Water Utility Status Report, please call the Water/Wastewater Office at 333-6740.

***** City of Lodi's Water Conservation Program Benefits *****

The citizens of Lodi, in cooperation with the City's Water Conservation Program, have significantly reduced their water usage. From 1970 thru 1976 the average water use was 359 gallons per person per day (and). The average since 1991 has been about 230 gpd. (Calculated using total water production, including all uses, divided by population.)

Lodi's water supply, as with many valley communities, is taken from groundwater aquifers. Although this resource is renewable, valley-wide we are taking more water out than is being replaced.

Water tables in the San Joaquin Valley have declined noticeably. During the 1986-1992 drought, Lodi lost about 12 feet in the water table based on City well readings. In 1993, with the help of last seasons rains, Lodi's water table level increased of about 1/2 foot.

How much has reduced water usage in Lodi slowed the depletion of Lodi's groundwater table? This is difficult to determine considering the many influences on the groundwater such as river flows, rain, other municipal pumping, and agricultural pumping, in addition to Lodi's 22 wells. The fact is that the water table is dropping under Lodi. Pumping less water due to your conservation efforts has slowed this depletion.

Water saved through conservation also saves money. The most direct cost savings is in electrical costs to pump the groundwater. Other cost savings include decreased maintenance, repair, and replacement costs to wells, pumps, and motors.

To more accurately determine the reduced water usages, Lodi was compared to 3 area communities which had only voluntary or inconsistently enforced water conservation regulations. The average reduction in water use for those communities was subtracted from Lodi's total water savings. Your efforts resulted in a net savings of 3.52 billion gallons since 1980, or 293 million gallons per year.

The electrical cost savings alone for the water saved from 1980 to 1992 is calculated at \$404,856, using present costs. The cost the entire Water Conservation Program, adjusted to today's dollars from 1979-80 through 1991-92, totaled only \$210,342.

The major cost savings however is in the number of wells needed to meet the City of Lodi's water demands. At today's rate each well costs the City of Lodi up to \$500,000 to explore, test, drill, develop, equip, and lay connecting water mains (this does not include treatment costs).

The 1962 water master plan calculated the City needing 29 wells for today's population. The 1976 and 1990 water master plans had Lodi needing approximately 26 wells with a population of 54,000. Currently the City is meeting Lodi's water demands with 22 wells, 18 active, 4 standby, and 2 out of service.

Therefore, if the City required the 26 wells projected in the 1976 and 1990 water master plans there would be four additional wells needed at this time costing up to \$2,000,000 (without treatment). Communities abandoning water conservation efforts only delay these expenditures, but those with ongoing programs may totally eliminate these costs.

The cost of a well treatment system for DBCP is approximately \$500,000. Construction of treatment systems on some existing wells is being delayed and possibly avoided by Lodi's ability to keep current DBCP wells in a "standby" mode due to reduced water usage. See the DBCP Update on Page 1 for more details.

Another significant benefit of water conservation efforts has been reduced wastewater flows. Calculations show savings of nearly \$240,000 from 1987 through 1992. More significant is the effect on treatment plant capacity. Reduced wastewater flows may extend the life of the recent \$10,000,000 treatment plant expansion 3 to 6 years.

Lodi's ongoing Water Conservation Program (your program) has financially benefited the citizens of Lodi. After subtracting the cost of the program, net savings to water and wastewater operating budgets alone have been over \$55,000 per year. Additionally, savings in capital costs run in the millions of dollars. Your efforts have paid off!

For more information, or a copy of the full water conservation report, call the Water/Wastewater Office at 333-6740.)

----- CUT OUT AND SAVE -----

----- City of Lodi - Water Conservation Ordinance Summary Call for information or reporting water waste: 333-6829. -----

Ordinance Requirements - Water waste includes but is not limited to the following:

1. Allowing a controllable leak of water to go unrepaired.
2. Watering lawns, flower beds, landscaping, ornamental plants or gardens except on watering days as follows:
Odd-numbered street addresses may water on Wednesday,
Friday and Sunday;
Even-numbered street addresses may water on Tuesday,
Thursday, and Saturday.
(WATERING IS NOT ALLOWED ON MONDAYS)
3. Watering lawns, flower beds, landscaping, ornamental plants or gardens between the hours of 10 a.m. and 6 p.m. from May 1 through September 30 each year. (You may not water during these high evaporation times.)
4. Washing down sidewalk, driveways, parking areas, tennis courts, patios, other exterior paved areas or buildings.
5. Washing any motor vehicle, trailer, boat, moveable equipment except with a bucket. A hose shall be used for rinsing only and for not more than three (3) minutes.
6. Use of an open hose. (All hoses must have a positive shut off nozzle when in use.)
7. Allowing excess water to flow into a gutter or any drainage area for longer than three (3) minutes.
overwatering lawns or landscapes from November 1 through February 28, or watering during and/or immediately following a rain.
9. Allowing the unnecessary running of water in any residential, commercial or industrial establishment onto the floor, pavement, ground or into any drain or drainage area in any way for more than three (3) minutes.

Water Wasting Rates and Enforcement - Education and cooperation is our first goal, however the following enforcement procedures and charges will be followed for water waste.

- 1st Water Waste - City will leave an information sheet describing the waste so that it may be corrected and the incident will be put on file.
- 2nd Water Waste*- City will give written notice requiring corrective action. * within 12 months of a 1st water waste
- 3rd Water Waste*- City will give written notice, and a \$35 charge will be added to the next utility bill. * within 12 months of a 2nd water waste
- 4th Water Waste*- City will give written notice, and a \$75 charge will be added to the next utility bill. * within 12 months of a 3rd water waste
- 5th and Subsequent Water Wastes*- City will give written notice, and a \$150 charge will be added to the next utility bill AND the City may require a water meter and/or flow restrictor to be installed at the waster's expense.

* Within 12 months of the most recent waste of water

If you have any questions, would like further information concerning water conservation, or to report water waste, please call the **Water Conservation Office at 333-6829.**



CITY OF LODI

Public Works Department

Annual Water Quality Report for 1993

Definition of Terms and Abbreviations:

NA = Not Applicable

NS = No Standard (MCL) Set*

ND = None Detected at Minimum Detection Level

MCL = Maximum Contamination Level (State Standard)

< Means "Less Than" The Amount Shown

"Minimum Detection Level" = lowest amount a laboratory can accurately report

Unless noted, results given as mg/L (milligrams per Liter, or parts per million).

* In addition to regulated constituents, Lodi monitored wells for organic chemicals for which the California Department of Health Services has not yet set a (MCL) and results were below minimum detection levels.

Regulated and Unregulated Organic Chemicals, mg/L	Maximum Contaminant Level (MCL)	Minimum Detection Level - mg/L	Average All Wells mg/L	Range High - Low mg/L
1993 data:				
Bromodichloromethane	NS	0.0005	ND	NA
Bromoform	NS	0.0005	ND	NA
Chloroform	NS	0.0005	ND	NA
Dibromochloromethane	NS	0.0005	ND	NA
Total THM's	100	0.0005	ND	NA
Benzene	0.001	0.0005	ND	NA
Carbon tetrachloride	0.0005	0.0005	ND	NA
Ethylbenzene	0.680	0.005	ND	NA
1,4-Dichlorobenzene (p-DCB)	0.005	0.0005	ND	NA
1,2-Dichloroethane (1,2-DCA)	0.0005	0.0005	ND	NA
1,1-Dichloroethylene (1,1-DCE)	0.006	0.0005	<0.0005	0.003-ND a)
Total 1,3-Dichloropropane	0.0005	0.0005	ND	NA
Monochlorobenzene	0.03	0.001	ND	NA
1,1,2,2-Tetrachloroethane	0.001	0.0005	ND	NA
Tetrachloroethylene (PCE)	0.005	0.0005	ND	NA
1,1,1-Trichloroethane (1,1,1-TCA)	0.2	0.001	<0.001	0.0006-ND a)
1,1,2-Trichloroethane (1,1,2-TCA)	0.032	0.001	ND	NA
Trichloroethylene (TCE)	0.005	0.0005	<0.0005	0.007-ND b)
Vinyl Chloride (VC)	0.0005	0.0005	ND	NA
m, p-Xylene	NS	0.01	ND	NA
O-Xylene	NS	0.01	ND	NA
Total Xylenes (m, p & O)	1.75	0.001	ND	NA
Dibromochloropropane (DBCP)	0.0002	0.00001	0.0002	0.0013-ND c)
Ethylene Dibromide (EDB)	0.00002	0.00002	ND	NA
Atrazine (AATrex)	0.003	0.001	ND	NA
Molinate (Odrum)	0.02	0.002	ND	NA
Simazine (Princep)	0.01	0.001	ND	NA
Thiobencarb (Bulero)	0.07	0.001	ND	NA
Endrin	0.0002	0.0001	ND	NA
Lindane (gamma-BHC)	0.004	0.0002	ND	NA
Methoxychlor	0.1	0.01	ND	NA
Toxaphene	0.005	0.001	ND	NA
Chlordane	0.0001	0.0001	ND	NA
2,4-D	0.1	0.01	ND	NA
Bentazon (Basagran)	0.018	0.002	ND	NA
2,4,5-TP (Silvax)	0.01	0.001	ND	NA
Bromobenzene	NS	0.0005	ND	NA
Bromochloromethane	NS	0.0005	ND	NA
Bromomethane (Methyl Bromide)	NS	0.0005	ND	NA
n-Butylbenzene	NS	0.0005	ND	NA
sec-Butylbenzene	NS	0.0005	ND	NA
tert-Butylbenzene	NS	0.0005	ND	NA
Chloroethane	NS	0.0005	ND	NA
2-Chloroethylvinyl ether	NS	0.001	ND	NA
Chloromethane (Methyl Chloride)	NS	0.0005	ND	NA
2-Chlorotoluene	NS	0.0005	ND	NA
4-Chlorotoluene	NS	0.0005	ND	NA
Dibromomethane	NS	0.0005	ND	NA
1,2-Dichlorobenzene (o-DCB)	NS	0.0005	ND	NA
1,3-Dichlorobenzene (m-DCB)	NS	0.0005	ND	NA
Dichlorodifluoromethane	NS	0.001	ND	NA
1,1-Dichloroethane (1,1-DCA)	0.005	0.0005	ND	NA
cis-1,2-Dichloroethylene	0.006	0.0005	ND	NA
trans-1,2-Dichloroethylene	0.01	0.0005	ND	NA
1,2-Dichloropropane	0.005	0.0005	ND	NA
1,3-Dichloropropane	NS	0.0005	ND	NA
2,2-Dichloropropane	NS	0.0005	ND	NA
1,1-Dichloropropane	NS	0.0005	ND	NA
Hexachlorobutadiene	NS	0.0005	ND	NA
Isopropylbenzene (Cumene)	NS	0.0005	ND	NA
p-Isopropyltoluene	NS	0.0005	ND	NA
Methylene chloride	NS	0.001	ND	NA
Naphthalene	NS	0.0005	ND	NA
n-Propylbenzene	NS	0.0005	ND	NA
Styrene	NS	0.0005	ND	NA
1,1,1,2-Tetrachloroethane	NS	0.0005	ND	NA
Toluene	NS	0.01	ND	NA
1,2,3-Trichlorobenzene	NS	0.0005	ND	NA
1,2,4-Trichlorobenzene	NS	0.0005	ND	NA
Trichlorofluoromethane (Freon 11)	0.15	0.001	ND	NA
1,2,3-Trichloropropane	NS	0.0005	ND	NA
Trichlorotrifluoroethane (Fr 113)	1.2	0.001	ND	NA
1,2,4-Trimethylbenzene	NS	0.0005	ND	NA
1,3,5-Trimethylbenzene	NS	0.0005	ND	NA
Bromacil (Hyvar)	NS	0.01	ND	NA
Diazinon	NS	0.00002	ND	NA
Prometryn (Caparal)	NS	0.002	ND	NA

(See top of next column for footnotes.)

- a) Found only in Well #2 at trace levels below the MCL.
b) Found in Wells #2, 12, 18, & 24 in trace levels.
c) No water from wells over MCL delivered. See the DBCP Update - page 1.

Regulated Inorganic Chemicals, mg/L	Maximum Contaminant Level (MCL)	Minimum Detection Level - mg/L	Average All Wells mg/L	Range High - Low mg/L
1991-1993 Data				
Aluminum	1.0	0.1	<0.05	0.100-ND
Arsenic	0.05	0.01	<0.004	0.008-ND
Barium	1.0	0.1	0.004	0.15-0.031
Cadmium	0.010	0.001	<0.0001	0.0001-ND
Chromium	0.05	0.01	<0.01	0.01-ND
Fluoride	1.4	0.1	0.1	0.2-ND
Lead	0.050	0.005	<0.001	0.0018-ND
Mercury	0.002	0.001	ND	NA
Nitrate as N	10	1	1.7	4.9-ND
Selenium	0.01	0.005	ND	NA
Silver	0.05	0.01	ND	NA

Secondary Standards for Aesthetic Purposes only	Secondary Drink. Water Standard	Minimum Detection Level	Average of All Wells	Range High - Low
1991-1993 data				
Chloride, mg/L	500	1	15	48-2.8
Color-Units	15	0.3	<3	3-ND
Copper, mg/L	1.0	0.05	ND	NA
Iron, mg/L	0.3	0.1	<0.03	0.047-ND
Manganese, mg/L	0.05	0.03	<0.03	0.025-ND
Odor-Threshold Units	3	1	ND	ND
Specific Conductance umhos/c	1800	1	341	570-128
Sulfate, mg/L	500	1	13	31-1.5
Surfactants (LAS, MBAS) mg/L	0.5	0.01	ND	NA
Total Dissolved Solids, mg/L	1000	1	229	350-120
Turbidity, NTU Units	5	0.1	<0.1	0.3-ND
Zinc, mg/L	5.0	0.05	<0.01	0.015-ND

Additional Constituents Measured, 1991-93 data	Maximum Contaminant Level (MCL)	Minimum Detection Level	Average of All Wells	Range High - Low
pH, Units	NS	NA	7.4	7.6-7.0
Calcium, mg/L	NS	NA	28	48-8.2
Hardness as CaCO ₃ , mg/L a)	NS	NA	129	270-38
Magnesium, mg/L	NS	NA	13	21-4.4
Nitrite as N, mg/L	NS	NA	ND	NA
Potassium, mg/L	NS	NA	5.0	7.6-1.8
Sodium, mg/L	NS	NA	20	38-8.4

a) To calculate grains per gallon, divide by 17.7

Bacterial Water Quality, 1993 Data	Maximum Contaminant Level (MCL)	Minimum Detection Level	Total % Positive	Monthly High-Low %Positive
Total Coliform Bacteria	5% /month	NA	4.8%	14.1%-0%
Fecal Coliform	<1 /month	NA	0.00%	ND

Lead & Copper Rule Customer Tap Monitoring 1992 Data	Maximum Contaminant Level (MCL)	Minimum Detection Level	Average 90th percentiles	Range of Individual Results
Lead, 90th percentile, mg/L	0.015	0.001	0.0015	0.008-ND
Copper, 90th percentile, mg/L	1.3	0.02	0.28	1.3-ND

Radioactivity, 1992 Data	Maximum Contaminant Level (MCL)	Minimum Detection Level	Average of All Wells	Range High - Low
Gross Alpha	15	NA	0.44	2.20 - ND

For any questions concerning these analytical results, contact the Assistant Water/Wastewater Superintendent at (209) 333-6740.

APPENDIX IV



CITY OF LODI

COUNCIL COMMUNICATION

AGENDA TITLE: Water Rate Analysis

MEETING DATE: April 5, 1995

PREPARED BY: Public Works Director

RECOMMENDED ACTION: That the City Council review the courses of action on implementing a water rate increase and provide the appropriate direction to staff. Staff recommends Option A be selected.

BACKGROUND INFORMATION: At its March 15, 1995 meeting, the City Council set a public hearing for April 19, 1995 to consider an increase in water rates to be effective June 1, 1995. More details of the proposed rate increase were presented at the March 21, 1995

Shirtsleeve Session. In addition, future rate studies and increases were discussed. Toward the end of the Shirtsleeve Session, the discussion lead to some options suggesting that possibly the public hearing should be canceled. The options involve two main issues: 1) implementing an "interim" rate increase before doing a detailed rate analysis, and, 2) whether the analysis should be done by an outside professional or by City staff.

On the first issue, it is certain we are looking at overall revenue needs that cannot be raised in one rate adjustment. Comments received from large industrial customers have supported planned, staged rate increases rather than fewer large increases. Therefore, staff is recommending the series of increases be started now.

On the second issue, some of the items that should be considered in a rate analysis are listed in Exhibit A. For comparison purposes, an outside analysis would cost up to \$15,000 and would entail roughly 160 hours of professional services and at least 40 hours of staff time over the course of two months. An in-house study would take 300 to 350 hours of staff time, although this is difficult to estimate since Public Works staff has not done this type of study before. Also, since City staff time is not available in week long blocks due to other on-going tasks, the overall duration of the analysis would be longer and the work accomplished less efficiently. This will also delay action on other projects currently underway (see Exhibit B).

The two issues combine to make four options. They are:

- A. Proceed with the public hearing on the recommended interim rate increase for June 1, 1995 and plan to have a rate analysis performed by a qualified professional firm for implementation in 1996.

APPROVED: _____

THOMAS A. PETERSON
City Manager



recycled paper

- *Under this option, the only immediate Council action required will be to conduct the public hearing on April 19. The Council could then adopt the rate increase or take some other action. If the Council does not provide other direction, staff will include the necessary funds for a rate analysis in the fiscal year 1995/96 budget. A recommendation as to the firm to do the work would be presented in summer 1995.*
- B. Proceed with the public hearing on the recommended interim rate increase and direct staff to perform a rate analysis for implementation in 1996.
- *This is the same as Option A except the rate analysis would be done in-house.*
 - *This option will take significantly more time to implement and would not have the depth and quality of analysis that could be provided by an outside professional.*
 - *The in-house analysis will involve the Public Works and Finance departments and the City Manager's office (including a new City Manager).*
- C. Cancel the public hearing and plan to have a rate analysis performed by a qualified professional firm for implementation in late 1995.
- *Under this option, we should start on the rate analysis as soon as possible in order to maintain the financial health of the water utility. Using the recommended flat rate increase of 22%, a 6-month delay means approximately \$250,000 in lost revenue.*
 - *The rate analysis will be complicated by the issue of the inappropriate water allowance in the metered rate if it is not addressed now.*
 - *The rate increases coming out of the analysis will be somewhat higher and/or more prolonged due to the time delay between June 1, 1995 and final action on the analysis.*
- D. Cancel the public hearing and direct staff to perform a rate analysis for implementation some time in late 1995 or early 1996.
- *This Option has all the disadvantages of both Options B and C.*
 - *Staff sees no advantages in this Option.*

FUNDING: None required at this time.



Jack L. Ronsko
Public Works Director

Prepared by Richard C. Prima, Jr., City Engineer

JLR/RCP/lm

cc: Water/Wastewater Superintendent
City Engineer

EXHIBIT A

- 1) Revenue requirements - cash needs approach vs. Utility approach
- 2) Revenue requirement projections
- 3) In-lieu tax policy
- 4) Miscellaneous operating revenue projections
- 5) Non-operating revenue projections
- 6) Cost allocation - base/extra capacity method vs. commodity-demand method
- 7) Current and short-term financial conditions of water utility
- 8) Future cost projections - operations and maintenance, capital, other costs
- 9) Inside City/outside City service cost allocation
- 10) Establish customer classes
- 11) Special customer classes - fire service, wholesale, irrigation, other
- 12) Units of service - meter size, demand rates
- 13) Establish unit costs
- 14) Distribute costs to customer classes
- 15) Block rates - single vs. declining vs. inverted
- 16) Rate adjustment options - customer acceptance, revenue lag
- 17) Seasonal, peak period rates
- 18) Conservation issues
- 19) Flat rates - equity with metered rates
- 20) Fire service rates
- 21) Lifeline rates
- 22) Connection charges
- 23) Miscellaneous service charges such as turn on/off, construction water
- 24) Unauthorized water use charges
- 25) Cross connection/backflow device charges
- 26) Develop computer rate model to simplify future updates
- 27) Rate options/analysis and projections
- 28) Public education and input process - throughout above steps
- 29) Public presentation and Council action

City Engineer 1995 Projects and Tasks

Projects (twelve to fifteen weeks minimum)

- 1) SP Kentucky House Branch abandonment - work with SP
- 2) ISTEA funding applications, next cycle
- 3) Central City revitalization - assessment district formation, design firm liaison
- 4) Water infrastructure/DBCP/rates presentation
- 5) Development Impact Mitigation Fee update
- 6) Encroachment Permit fees/policies, downtown sidewalk encroachments
- 7) Capital budget for FY 95/97
- 8) Lower Sacramento Road widening - outside engineering firm selection and management
- 9) Highway 12 Widening at Highway 99 - outside engineering firm selection and management
- 10) Water storage tank - outside engineering firm selection and management

Ongoing Tasks (average two to three weeks per month)

- 11) Public Works staff meetings
- 12) Council of Government Technical Advisory Meetings, brief Board representative
- 13) Multimodal Station - work with consultant and liaison to Central City Revitalization Task Force
- 14) Economic Development Meetings
- 15) Review responses to traffic complaints
- 16) Direct and review CIP project designs
- 17) Direct and review development project designs, preliminary requirements and inquiries

APPENDIX V



CITY OF LODI

COUNCIL COMMUNICATION

AGENDA TITLE: Public Hearing to Consider Increasing Water Rates Effective June 1, 1995

MEETING DATE: April 19, 1995

PREPARED BY: Public Works Director

RECOMMENDED ACTION: That the City Council conduct a public hearing on the recommended water rate increases described in the staff report and take the appropriate action.

BACKGROUND INFORMATION: The condition and needs of the City's water system have been reported to the City Council and the public in a series of Council Shirtsleeve Sessions, written reports and public notifications over the course of the past year and a half. The November 1993 "Water Utility Status Report" contained most of this information. A one-page summary of the report was included in the "Annual Water Quality Report for 1993" mailed to all water customers in April 1994. A report on water rates and the "Water Storage Tank Study" was presented to the Council at a Shirtsleeve Session in May 1994. Additional Shirtsleeve and regular Council Meeting presentations were made in March 1995.

Very briefly, the bottom line is that the City needs to put more money into its water utility. Old pipes in the City's water system should be replaced on a regular basis. Regular replacement of other major parts – wells, generators, valves and fire hydrants – are also needed and should be undertaken on something other than an emergency basis. In addition, financial resources of the utility have been drained in complying with Federal and State drinking water standards for DBCP, a pesticide found in minute quantities in the groundwater. To meet customers' water demands in peak summer periods, new treatment and storage facilities will be needed. And, while a State loan has been secured for these improvements, additional revenue is needed to repay the loan.

The issue of the water utility's rate structure has been discussed. There are problems with the City's metered water rate, which affects most industrial and commercial customers. The major problem is that an unreasonable amount of water is included in the minimum charge. In addition, the relationships between metered rates and flat rates, and the minimum meter charges, have not been evaluated in over 20 years. Finally, State law now requires installation of water meters on all new services. Thus, we will eventually have some metered residences and some on flat rates. In the long run, these rate equity problems will need to be solved by installing water meters for all customers.

The amount of additional revenue needed is complicated by the City's "in-lieu" tax on utility revenue. Per adopted Council policy, 20% of the water utility's revenue is transferred to General Fund in-lieu of taxes that might be paid by a private utility. While the logic and details of the amount of this tax could be debated endlessly, it has been a long-standing practice going back to the incorporation of the City when the citizens acquired the privately-owned water and electric utilities.

APPROVED: _____

THOMAS A. PETERSON
City Manager



A summary of the revenue needs of the water utility is shown below:

Purpose	Annual Amount	Amount with 20% Tax	% Increase
Repay State Loan	\$ 271,000	\$ 325,000	12%
O&M of DBCP Filters	\$ 158,000	\$ 190,000	7%
System Replacement, O&M Needs	\$ 717,000	\$ 860,000	31%
Meter Retrofit Program	\$ <u>550,000</u>	\$ <u>660,000</u>	<u>24%</u>
Total:	\$ 1,696,000	\$ 2,035,000	74%

While surveys show Lodi's water rates are at least 43% below those of other cities, it is not recommended to raise rates 74% all at once. Industries have requested rate increases be stepped over some number of years and that they be planned in advance. Aside from customer acceptance, it would be impractical from staffing and operational considerations to try and increase expenditures that much at one time. The last water rate increase was made in 1991. It was an across-the-board increase of 5%.

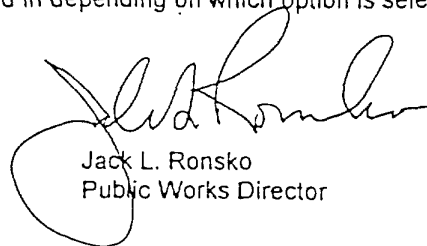
Staff has recommended that a rate increase be adopted effective June 1, 1995, and that a rate analysis be done to plan subsequent rate increases starting in 1996. The recommended rate increase is 22% on the flat rates, 10% on the minimum metered rates, 5% on the metered charge for water, and eliminate the water allowance included in the minimum metered rate. This recommendation is based on the present in-lieu tax policy and will provide sufficient revenue to handle DBCP compliance in the short term and some funds for system replacement.

The flat-rate increase translates to \$2.33 per month on a three-bedroom home and \$3.04 per month on the average non-residential account. The increase for the metered customers varies considerably. Twenty percent of the 883 non-residential metered customers will have increases of less than \$3.04 per month. The average increase is 31%, or \$14.10 per month. Most of the increase is due to the elimination of the water allowance in the minimum charge. To ease this increase, staff recommends that, upon request of the customer, the City install a smaller meter at no charge, thereby reducing the minimum charge. Another option is to reduce the allowance rather than eliminate it completely.

The recommended rate increase and the revenue produced is summarized in Exhibit A, Option 1, and detailed in Exhibits B and C. Suggestions have been made that all or part of the rate increase revenue not be subject to the in-lieu tax. One suggestion was that the portion pertaining to DBCP compliance not be subject to the tax. This is shown as Option 2 in Exhibit A. Another suggestion was that none of the increased revenue be subject to the tax which is shown as Option 3 in Exhibit A. In all cases, the net new revenue to the Water Fund is the same as that of the recommended increase.

The City Code (LMC § 13.08.010) provides for water rates to be set by resolution. The attached resolution is written with the appropriate "blanks" to be filled in depending on which option is selected by the Council.

FUNDING: None needed.


Jack L. Ronsko
Public Works Director

Prepared by Richard C. Prima, Jr., City Engineer

Attachments

cc: City Attorney
Water/Wastewater Superintendent
DBCP Committee
Chamber of Commerce
Lodi Industrial Group

Water Rate Increase Options

Rate Changes

		Option 1	Option 2	Option 3
A. General Fund "In-lieu tax policy		As is - 20%	No tax on increased revenue for DBCP (Reduce in-lieu tax to 17.4%)	No tax on increased revenue (Reduce in-lieu tax to 16.8%)
B. Flat Rate	Increase:	22%	17.7%	16.7%
C. Metered Rate:				
C1. Base Charge	Increase:	10%	8.0%	7.6%
C2. Water Charge	Increase:	5%	4.0%	3.8%
C3. Water Allowance		Eliminate (or reduce)	Eliminate	Eliminate

Estimated Revenue Changes

	Present Revenue	Increased Revenue		
		Option 1	Option 2	Option 3
Flat Rate: \$	2,327,000	\$ 2,839,000	\$ 2,738,000	\$ 2,716,000
Metered Rate: \$	480,000	\$ 624,000	\$ 617,000	\$ 615,000
Total: \$	2,807,000	\$ 3,463,000	\$ 3,355,000	\$ 3,331,000
Total In-lieu Tax: \$	561,000	\$ 693,000	\$ 585,000	\$ 561,000
Net New Revenue to Water Fund: \$	-	\$ 524,000	\$ 524,000	\$ 524,000
Increase per month for 3-bedroom home:		\$ 2.33	\$ 1.87	\$ 1.77

Water Rate Analysis - Flat Rates

Proposed Rate Increase: 22%

Code	Account Type	Present Rate	Number	Annual Revenue	%	New Rate	Annual Revenue
A01	Apt. - 1 Br.	\$ 6.30	1,646	\$ 124,437.60	5.3%	\$ 7.69	\$ 151,813.87
A02	Apt. - 2 Br.	\$ 7.56	2,968	\$ 269,256.96	11.6%	\$ 9.22	\$ 328,493.49
A03	Apt. - 3 Br.	\$ 9.07	91	\$ 9,904.44	0.4%	\$ 11.07	\$ 12,083.42
A04	Apt. - 4 Br.	\$ 10.88	0	-	-	\$ 13.27	-
A05	Apt. - 5 Br.	\$ 13.06	0	-	-	\$ 15.93	-
A06	Apt. - 6 Br.	\$ 15.67	0	-	-	\$ 19.12	-
A07	Apt. - 7 Br.	\$ 18.81	0	-	-	\$ 22.95	-
H01	Residence - 1 Br.	\$ 7.35	598	\$ 52,743.60	2.3%	\$ 8.97	\$ 64,347.19
H02	Residence - 2 Br.	\$ 8.82	4,448	\$ 470,776.32	20.2%	\$ 10.76	\$ 574,347.11
H03	Residence - 3 Br.	\$ 10.58	7,908	\$ 1,003,999.68	43.1%	\$ 12.91	\$ 1,224,879.61
H04	Residence - 4 Br.	\$ 12.70	1,116	\$ 170,078.40	7.3%	\$ 15.49	\$ 207,495.65
H05	Residence - 5 Br.	\$ 15.24	93	\$ 17,007.84	0.7%	\$ 18.59	\$ 20,749.56
H06	Residence - 6 Br.	\$ 18.29	5	\$ 1,097.40	0.0%	\$ 22.31	\$ 1,338.83
H07	Residence - 7 Br.	\$ 21.94	1	\$ 263.28	0.0%	\$ 26.77	\$ 321.20
011	Multi Fam. pd by owner	\$ 14.70	0	-	-	\$ 17.93	-
012	Multi Fam. pd by owner	\$ 16.17	7	\$ 1,358.28	0.1%	\$ 19.73	\$ 1,657.10
013	Multi Fam. pd by owner	\$ 17.93	0	-	-	\$ 21.87	-
014	Multi Fam. pd by owner	\$ 20.05	0	-	-	\$ 24.46	-
022	Multi Fam. pd by owner	\$ 17.64	7	\$ 1,481.76	0.1%	\$ 21.52	\$ 1,807.75
023	Multi Fam. pd by owner	\$ 19.40	3	\$ 698.40	0.0%	\$ 23.67	\$ 852.05
024	Multi Fam. pd by owner	\$ 21.52	0	-	-	\$ 26.25	-
033	Multi Fam. pd by owner	\$ 21.16	1	\$ 253.92	0.0%	\$ 25.82	\$ 309.78
034	Multi Fam. pd by owner	\$ 23.28	0	-	-	\$ 28.40	-
044	Multi Fam. pd by owner	\$ 25.41	0	-	-	\$ 31.00	-
045	Multi Fam. pd by owner	\$ 231.08	1	\$ 2,772.96	0.1%	\$ 281.92	\$ 3,383.01
11	Multi Fam. pd by owner	\$ 14.70	0	-	-	\$ 17.93	-
111	Multi Fam. pd by owner	\$ 22.05	5	\$ 1,323.00	0.1%	\$ 26.90	\$ 1,614.06
112	Multi Fam. pd by owner	\$ 23.52	2	\$ 564.48	0.0%	\$ 28.69	\$ 688.67
113	Multi Fam. pd by owner	\$ 25.28	1	\$ 303.36	0.0%	\$ 30.84	\$ 370.10
114	Multi Fam. pd by owner	\$ 27.40	0	-	-	\$ 33.43	-
122	Multi Fam. pd by owner	\$ 24.99	4	\$ 1,199.52	0.1%	\$ 30.49	\$ 1,453.41
123	Multi Fam. pd by owner	\$ 26.75	0	-	-	\$ 32.64	-
124	Multi Fam. pd by owner	\$ 28.87	0	-	-	\$ 35.22	-
133	Multi Fam. pd by owner	\$ 28.51	0	-	-	\$ 34.78	-
134	Multi Fam. pd by owner	\$ 30.63	0	-	-	\$ 37.37	-
144	Multi Fam. pd by owner	\$ 32.76	0	-	-	\$ 39.97	-
222	Multi Fam. pd by owner	\$ 26.46	2	\$ 635.04	0.0%	\$ 32.28	\$ 774.75
223	Multi Fam. pd by owner	\$ 28.22	0	-	-	\$ 34.43	-
224	Multi Fam. pd by owner	\$ 30.34	0	-	-	\$ 37.01	-
233	Multi Fam. pd by owner	\$ 29.98	0	-	-	\$ 36.58	-
234	Multi Fam. pd by owner	\$ 32.10	0	-	-	\$ 39.16	-
244	Multi Fam. pd by owner	\$ 34.23	0	-	-	\$ 41.76	-
245	Multi Fam. pd by owner	\$ 31.75	0	-	-	\$ 38.74	-
246	Multi Fam. pd by owner	\$ 33.87	0	-	-	\$ 41.32	-
247	Multi Fam. pd by owner	\$ 35.99	0	-	-	\$ 43.91	-
248	Multi Fam. pd by owner	\$ 38.11	0	-	-	\$ 46.49	-
249	Multi Fam. pd by owner	\$ 62.92	0	-	-	\$ 64.56	-
300	Multi Fam. pd by owner	\$ 15.87	2	\$ 380.88	0.0%	\$ 19.36	\$ 464.67
301	Multi Fam. pd by owner	\$ 17.93	0	-	-	\$ 21.87	-
302	Multi Fam. pd by owner	\$ 26.46	0	-	-	\$ 32.28	-
303	Multi Fam. pd by owner	\$ 18.90	1	\$ 226.80	0.0%	\$ 23.06	\$ 276.70
304	Multi Fam. pd by owner	\$ 113.40	0	-	-	\$ 138.35	-
305	Multi Fam. pd by owner	\$ 88.20	0	-	-	\$ 107.60	-
306	Multi Fam. pd by owner	\$ 163.80	0	-	-	\$ 199.84	-
307	Multi Fam. pd by owner	\$ 223.02	0	-	-	\$ 272.08	-
308	Multi Fam. pd by owner	\$ 270.90	0	-	-	\$ 330.50	-
309	Multi Fam. pd by owner	\$ 258.30	1	\$ 3,099.60	0.1%	\$ 315.13	\$ 3,781.51
310	Multi Fam. pd by owner	\$ 1,512.00	0	-	-	\$ 1,844.64	-
311	Multi Fam. pd by owner	\$ 27.46	0	-	-	\$ 33.50	-
312	Multi Fam. pd by owner	\$ 25.20	7	\$ 2,116.80	0.1%	\$ 30.74	\$ 2,582.50
313	Multi Fam. pd by owner	\$ 31.50	1	\$ 378.00	0.0%	\$ 38.43	\$ 461.16
314	Multi Fam. pd by owner	\$ 30.24	4	\$ 1,451.52	0.1%	\$ 36.89	\$ 1,770.85

Water Rate Analysis - Flat Rates

Proposed Rate Increase: 22%

Code	Account Type	Present Rate	Number	Annual Revenue	%	New Rate	Annual Revenue
315	Multi Fam. pd by owner	\$ 60.40	3	\$ 1,814.40	0.1%	\$ 61.49	\$ 2,213.57
316	Multi Fam. pd by owner	\$ 45.36	2	\$ 1,088.64	0.0%	\$ 65.34	\$ 1,328.14
317	Multi Fam. pd by owner	\$ 49.14	1	\$ 589.68	0.0%	\$ 69.95	\$ 719.41
318	Multi Fam. pd by owner	\$ 51.66	1	\$ 619.92	0.0%	\$ 63.03	\$ 756.30
319	Multi Fam. pd by owner	\$ 66.70	2	\$ 1,360.80	0.1%	\$ 69.17	\$ 1,660.18
320	Multi Fam. pd by owner	\$ 52.92	1	\$ 635.04	0.0%	\$ 64.56	\$ 774.75
321	Multi Fam. pd by owner	\$ 63.00	2	\$ 1,512.00	0.1%	\$ 76.86	\$ 1,844.64
322	Multi Fam. pd by owner	\$ 69.30	1	\$ 831.60	0.0%	\$ 84.55	\$ 1,014.55
323	Multi Fam. pd by owner	\$ 63.50	3	\$ 2,286.00	0.1%	\$ 77.47	\$ 2,788.92
324	Multi Fam. pd by owner	\$ 75.60	2	\$ 1,814.40	0.1%	\$ 92.23	\$ 2,213.57
325	Multi Fam. pd by owner	\$ 88.20	1	\$ 1,058.40	0.0%	\$ 107.60	\$ 1,291.25
326	Multi Fam. pd by owner	\$ 102.81	1	\$ 1,233.72	0.1%	\$ 125.43	\$ 1,505.14
327	Multi Fam. pd by owner	\$ 105.84	0	\$ -	-	\$ 129.12	\$ -
328	Multi Fam. pd by owner	\$ 120.96	0	\$ -	-	\$ 147.57	\$ -
329	Multi Fam. pd by owner	\$ 257.04	0	\$ -	-	\$ 313.59	\$ -
330	Multi Fam. pd by owner	\$ 480.81	1	\$ 5,769.72	0.2%	\$ 586.59	\$ 7,039.06
331	Multi Fam. pd by owner	\$ 707.61	1	\$ 8,491.32	0.4%	\$ 863.28	\$ 10,359.41
332	Multi Fam. pd by owner	\$ 1,121.90	1	\$ 13,462.80	0.6%	\$ 1,368.72	\$ 16,424.62
333	Multi Fam. pd by owner	\$ 51.66	2	\$ 1,239.84	0.1%	\$ 63.03	\$ 1,512.60
334	Multi Fam. pd by owner	\$ 211.68	1	\$ 2,540.16	0.1%	\$ 258.25	\$ 3,099.00
335	Multi Fam. pd by owner	\$ 13.23	0	\$ -	-	\$ 16.14	\$ -
336	Multi Fam. pd by owner	\$ 44.10	1	\$ 529.20	0.0%	\$ 53.80	\$ 645.62
337	Multi Fam. pd by owner	\$ 34.02	1	\$ 408.24	0.0%	\$ 41.50	\$ 498.05
338	Multi Fam. pd by owner	\$ 90.72	1	\$ 1,088.64	0.0%	\$ 110.68	\$ 1,328.14
339	Multi Fam. pd by owner	\$ 60.48	0	\$ -	-	\$ 73.79	\$ -
340	Multi Fam. pd by owner	\$ 56.70	0	\$ -	-	\$ 69.17	\$ -
341	Multi Fam. pd by owner	\$ 45.36	1	\$ 544.32	0.0%	\$ 55.34	\$ 664.07
342	Multi Fam. pd by owner	\$ 73.08	1	\$ 876.96	0.0%	\$ 89.16	\$ 1,069.89
343	Multi Fam. pd by owner	\$ 78.12	1	\$ 937.44	0.0%	\$ 95.31	\$ 1,143.68
344	Multi Fam. pd by owner	\$ 68.04	1	\$ 816.48	0.0%	\$ 83.01	\$ 996.11
345	Multi Fam. pd by owner	\$ 48.38	1	\$ 580.56	0.0%	\$ 59.02	\$ 708.28
346	Multi Fam. pd by owner	\$ 30.74	0	\$ -	-	\$ 37.50	\$ -
347	Multi Fam. pd by owner	\$ 27.72	1	\$ 332.64	0.0%	\$ 33.82	\$ 405.82
348	Multi Fam. pd by owner	\$ 40.32	1	\$ 483.84	0.0%	\$ 49.19	\$ 590.28
349	Multi Fam. pd by owner	\$ 35.28	1	\$ 423.36	0.0%	\$ 43.04	\$ 516.50
350	Multi Fam. pd by owner	\$ 34.02	1	\$ 408.24	0.0%	\$ 41.50	\$ 498.05
351	Multi Fam. pd by owner	\$ 37.80	2	\$ 907.20	0.0%	\$ 46.12	\$ 1,106.78
352	Multi Fam. pd by owner	\$ 46.62	2	\$ 1,118.88	0.0%	\$ 56.88	\$ 1,365.03
353	Multi Fam. pd by owner	\$ 48.38	1	\$ 580.56	0.0%	\$ 59.02	\$ 708.28
354	Multi Fam. pd by owner	\$ 57.96	1	\$ 695.52	0.0%	\$ 70.71	\$ 848.53
355	Multi Fam. pd by owner	\$ 70.56	0	\$ -	-	\$ 86.08	\$ -
356	Multi Fam. pd by owner	\$ 74.34	0	\$ -	-	\$ 90.69	\$ -
357	Multi Fam. pd by owner	\$ 64.26	1	\$ 771.12	0.0%	\$ 78.40	\$ 940.77
358	Multi Fam. pd by owner	\$ 85.68	1	\$ 1,028.16	0.0%	\$ 104.53	\$ 1,254.36
359	Multi Fam. pd by owner	\$ 95.55	2	\$ 2,293.20	0.1%	\$ 116.57	\$ 2,797.70
360	Multi Fam. pd by owner	\$ 100.80	1	\$ 1,209.60	0.1%	\$ 122.98	\$ 1,475.71
361	Multi Fam. pd by owner	\$ 88.20	2	\$ 2,116.80	0.1%	\$ 107.60	\$ 2,582.50
362	Multi Fam. pd by owner	\$ 176.40	1	\$ 2,116.80	0.1%	\$ 215.21	\$ 2,582.50
363	Multi Fam. pd by owner	\$ 252.00	0	\$ -	-	\$ 307.44	\$ -
364	Multi Fam. pd by owner	\$ 226.80	1	\$ 2,721.60	0.1%	\$ 276.70	\$ 3,320.35
365	Multi Fam. pd by owner	\$ 234.36	1	\$ 2,812.32	0.1%	\$ 285.92	\$ 3,431.03
366	Multi Fam. pd by owner	\$ 325.08	1	\$ 3,900.96	0.2%	\$ 396.60	\$ 4,759.17
367	Multi Fam. pd by owner	\$ 337.68	1	\$ 4,052.16	0.2%	\$ 411.97	\$ 4,943.64
368	Multi Fam. pd by owner	\$ 282.24	1	\$ 3,386.88	0.1%	\$ 344.33	\$ 4,131.99
369	Multi Fam. pd by owner	\$ 336.42	1	\$ 4,037.04	0.2%	\$ 410.43	\$ 4,925.19
370	Multi Fam. pd by owner	\$ 372.96	1	\$ 4,475.52	0.2%	\$ 455.01	\$ 5,460.13
371	Multi Fam. pd by owner	\$ 352.80	1	\$ 4,233.60	0.2%	\$ 430.42	\$ 5,164.99
372	Multi Fam. pd by owner	\$ 579.60	1	\$ 6,955.20	0.3%	\$ 707.11	\$ 8,485.34
373	Multi Fam. pd by owner	\$ 617.40	1	\$ 7,408.80	0.3%	\$ 753.23	\$ 9,038.74
374	Multi Fam. pd by owner	\$ 932.40	1	\$ 11,188.80	0.5%	\$ 1,137.53	\$ 13,650.34
375	Multi Fam. pd by owner	\$ 403.20	0	\$ -	-	\$ 491.90	\$ -
376	Multi Fam. pd by owner	\$ 30.87	1	\$ 370.44	0.0%	\$ 37.66	\$ 451.94

Exhibit B

Water Rate Analysis - Flat Rates

Proposed Rate Increase: 22%

Code	Account Type	Present Rate	Number	Annual Revenue	%	New Rate	Annual Revenue
377	Multi Fam. pd by owner	\$ 26.46	1	\$ 317.52	0.0%	\$ 32.28	\$ 387.37
378	Multi Fam. pd by owner	\$ 21.42	1	\$ 257.04	0.0%	\$ 26.13	\$ 313.59
379	Multi Fam. pd by owner	\$ 13.86	0	\$ -	-	\$ 16.91	\$ -
380	Multi Fam. pd by owner	\$ 60.48	2	\$ 1,451.52	0.1%	\$ 73.79	\$ 1,770.85
381	Multi Fam. pd by owner	\$ 132.30	0	\$ -	-	\$ 161.41	\$ -
382	Multi Fam. pd by owner	\$ 15.12	0	\$ -	-	\$ 18.45	\$ -
499	Multi Fam. pd by owner	\$ -	60	\$ -	-	\$ -	\$ -
500	City Flat Rate Acct.	\$ 47.62	3	\$ 1,714.32	0.1%	\$ 58.10	\$ 2,091.47
501	City Flat Rate Acct.	\$ 26.46	3	\$ 952.56	0.0%	\$ 32.28	\$ 1,162.12
502	City Flat Rate Acct.	\$ 15.87	4	\$ 761.76	0.0%	\$ 19.36	\$ 929.35
503	City Flat Rate Acct.	\$ 10.58	19	\$ 2,412.24	0.1%	\$ 12.91	\$ 2,942.93
504	City Flat Rate Acct.	\$ 35.36	1	\$ 424.32	0.0%	\$ 43.14	\$ 517.67
505	City Flat Rate Acct.	\$ 39.69	1	\$ 476.28	0.0%	\$ 48.42	\$ 581.06
506	City Flat Rate Acct.	\$ 34.04	10	\$ 4,084.80	0.2%	\$ 41.53	\$ 4,983.46
515	Non-Residential Flat Rate	\$ 10.58	270	\$ 34,279.20	1.5%	\$ 12.91	\$ 41,820.62
524	Non-Residential Flat Rate	\$ 13.23	1	\$ 158.76	0.0%	\$ 16.14	\$ 193.69
530	Non-Residential Flat Rate	\$ 14.02	8	\$ 1,345.92	0.1%	\$ 17.10	\$ 1,642.02
536	Non-Residential Flat Rate	\$ 15.87	10	\$ 1,904.40	0.1%	\$ 19.36	\$ 2,323.37
542	Non-Residential Flat Rate	\$ 17.46	10	\$ 2,095.20	0.1%	\$ 21.30	\$ 2,556.14
554	Non-Residential Flat Rate	\$ 21.16	13	\$ 3,300.96	0.1%	\$ 25.82	\$ 4,027.17
557	Non-Residential Flat Rate	\$ 22.22	1	\$ 266.64	0.0%	\$ 27.11	\$ 325.30
569	Non-Residential Flat Rate	\$ 26.46	1	\$ 317.52	0.0%	\$ 32.28	\$ 387.37
575	Non-Residential Flat Rate	\$ 28.04	1	\$ 336.48	0.0%	\$ 34.21	\$ 410.51
581	Non-Residential Flat Rate	\$ 29.63	2	\$ 711.12	0.0%	\$ 36.15	\$ 867.57
584	Non-Residential Flat Rate	\$ 31.75	1	\$ 381.00	0.0%	\$ 38.74	\$ 464.82
589	Non-Residential Flat Rate	\$ 68.79	1	\$ 825.48	0.0%	\$ 83.92	\$ 1,007.09
623	Non-Residential Flat Rate	\$ 42.33	1	\$ 507.96	0.0%	\$ 51.64	\$ 619.71
629	Non-Residential Flat Rate	\$ 44.45	1	\$ 533.40	0.0%	\$ 54.23	\$ 650.75
638	Non-Residential Flat Rate	\$ 47.62	1	\$ 571.44	0.0%	\$ 58.10	\$ 697.16
647	Non-Residential Flat Rate	\$ 52.12	1	\$ 625.44	0.0%	\$ 63.59	\$ 763.04
665	Non-Residential Flat Rate	\$ 58.21	1	\$ 698.52	0.0%	\$ 71.02	\$ 852.19
692	Non-Residential Flat Rate	\$ 70.38	2	\$ 1,689.12	0.1%	\$ 85.86	\$ 2,060.73
696	Non-Residential Flat Rate	\$ 74.08	1	\$ 888.96	0.0%	\$ 90.38	\$ 1,084.53
736	Non-Residential Flat Rate	\$ 120.96	1	\$ 1,451.52	0.1%	\$ 147.57	\$ 1,770.85
746	Non-Residential Flat Rate	\$ 132.30	1	\$ 1,587.60	0.1%	\$ 161.41	\$ 1,936.87
Total:			19,421	\$ 2,327,298.36	100.0%		\$ 2,839,304.00
						Net increase:	\$ 512,005.64
# Commercial/Industrial Accounts:			329	\$ 54,476.64			\$ 66,461.50
Avg/Mo.				\$ 13.80		Net increase:	\$ 11,984.86
						Average Increase/Mo.:	\$ 3.04

Note: Deleted non-residential codes with no customers since all new ones will be metered.

Exhibit C

Metered Water Rate Changes

Existing Water Charge: \$ 0.285 per 100 cubic feet (\$ 0.38 per 1000 gallons)

Proposed Increase: 5%

New Water Charge: \$ 0.299 per 100 cubic feet (\$ 0.40 per 1000 gallons)

Base Charge Increase: 10%

Monthly Base Charges:			# gallons included in base charge	
Meter Size	Existing Charge	New Charge	Existing	New
¾"	\$10.58	\$11.64	27,800	0
1"	\$15.87	\$17.46	41,700	0
1½"	\$21.16	\$23.28	55,500	0
2"	\$26.46	\$29.11	69,400	0
3"	\$37.04	\$40.74	97,200	0
4"	\$47.62	\$52.38	125,000	0
6"	\$68.79	\$75.67	180,500	0
8"	\$89.96	\$98.96	236,100	0

APPENDIX VI



PUBLIC WORKS DEPARTMENT
WATER/WASTEWATER DIVISION

Annual Water Quality Report for 1994

To keep our water customers informed about the drinking water in Lodi, the City of Lodi distributes this annual report. The Water Quality Report on Page 4 summarizes testing performed on Lodi's water supply by State certified laboratories. To better understand the report please note the description of terms and abbreviations at the top of Page 4.

The City of Lodi supplies high-quality groundwater through approximately 24 City wells. These wells operate automatically on water pressure demand so that when water use increases, more wells come on line.

All 24 City wells are interconnected through approximately 198 miles of water mains. In 1994 4.660 billion gallons of water were pumped to satisfy Lodi's water demands. This represents 5.2% less than 1986 in spite of a population growth of 25% since 1986.

Your continuing water conservation practices have really paid off! A 1993 report calculated savings to be far above the cost of the Water Conservation Program. Maintaining your water conservation efforts results in annual cost savings in operation and maintenance and averts millions of dollars in capital expenditures, helping water rate increases stay low as possible and conserving a valuable natural resource. Please read the water conservation message on Page 3.

Drinking water provided in Lodi is of high quality and not only

meets but is better than all State and Federal drinking water standards (listed on Page 4). Certain wells would individually exceed the Dibromochloropropane (DBCP) standard if used. Please see the "DBCP Update" below for more information. Also, one well is slightly above the State limit for Trichloroethylene (TCE). This well is not being used.

Lodi takes 18 samples weekly from throughout Lodi's water distribution system for bacterial water quality. Regulations allow for 5% of all total coliform samples in a month to be positive. In November 1995 Lodi had 6% positive and exceeded the standard for "total coliforms". While State health officials agreed there was no health threat from this bacteria, Lodi officials decided to chlorinate Lodi's drinking water system for five days in December 1994 to cut down on these harmless bacteria that show up in the testing procedure. Occasionally the City may have to chlorinate your water, but we will make every effort to inform you in local papers before the drinking water is to be chlorinated.

While your water rates have been kept as low as possible, water rates have recently been raised to help meet funding needs. Please read the important message on your water rates on Page 2 of this report.

If you have any questions about this report or the quality of Lodi's water, please call the City's Water/Wastewater Office at 333-6740.

DBCP UPDATE

The California Department of Health Services (DHS) sets drinking water standards, and has set a limit for Dibromochloropropane (DBCP). This organic chemical was once a popular pesticide used in and around Lodi by area farmers until banned by the government in 1977. DBCP has been shown to increase cancer nodules in rats and mice when exposed to very high levels over their lifetimes. It is a theory that these chemicals may also increase the risk of cancer in humans who are exposed over long periods to very minute amounts.

Although even the possibility of this theory being correct is debated by leading scientists, the United States Environmental Protection Agency (EPA) and DHS have set the drinking water standard for DBCP at 0.0002 parts per million (ppm) or 0.2 parts per billion (ppb) to reduce the theoretical risk of cancer. The theoretical risk of cancer is based on lifetime (70 years) exposure and drinking about two quarts of water every day.

Water which meets this standard is considered safe with respect to drinking water with this level of DBCP. The limit of 0.0002 ppm equals one drop in 66,000 gallons of water (it would take over 350 years to drink 66,000 gallons of water at 2 quarts/day). Theoretical risks associated with DBCP are based on 70 years exposure, so even EPA states that these levels in Lodi's water would not be significant when exposed for a relatively short time.

City wells at some point exceeded the new limit for DBCP. Of these 14 wells, the City has abandoned 4 wells, levels in 5 wells came back into compliance, 1 well has a treatment system, and 4 wells remain out of compliance (standby). The one Granular

Activated Carbon (GAC) treatment system in use has cost the City approximately \$600,000.

The 4 wells over the DBCP limit could be used for relatively short periods of time only during peak water demand hours in the hottest parts of the year, yet they are regulated as if they were on 24 hours a day, 365 days per year. With that in mind, the City proposed an alternative treatment/operation system that would save our citizens millions of dollars, yet meet Federal regulations. However, it is apparent that at this time DHS and EPA officials are not going to allow Lodi's proposal.

Capacity of the City's water system has not kept pace with peak water demands while the City has been trying to resolve the DBCP issue. Therefore, to help meet the peak water demands expected this summer, the City Council has approved the installation of three more GAC treatment systems at a cost of approximately one million dollars. Two systems are scheduled for completion this summer and the third site, scheduled for completion before the 1996 peak water season, will also have a 1 million gallon storage tank located east of Highway 99.

The City has also brought a lawsuit against the manufacturers of DBCP. This lawsuit will attempt to recover some of Lodi's costs including replacing and treating DBCP contaminated wells.

In the meantime you may consider your water safe to drink. The City will keep you regularly informed of progress made to resolve this issue. If you have any questions regarding this update, please call the City of Lodi's Water/Wastewater Office at (209) 333-6740.

About the Recent Water Rate Increase

After a Public Hearing on April 19, 1995 the City Council raised water rates to help meet increasing financial needs of the City's Drinking Water System. The new water rates were approved after much debate and several meetings at which the Public Works Department detailed funding deficiencies for the water system. This is the first of a series of needed water rate increases.

The City operates and maintains your water system which includes: 24 wells, 198 miles of distribution mains, an elevated water tank, chlorination systems, emergency generators, equipment for installing and repairing water lines, a laboratory for water quality analyses, and a granular activated carbon treatment system on one well. There are also ever mounting costs to meet State and Federal regulations include increased costs for engineering, monitoring, administration, treatment, regulatory fees, etc. City policy also directed that 20% of the Water Utility revenue go to the City's General Fund to help pay for items such as Police and Fire Services, Parks and Recreation, Hutchins Street Square, etc.

There are MAJOR deficiencies in our water system we must face. For example, many distribution mains are 70+ years old. These undersized and failing water mains, located chiefly in the eastside and downtown areas, should be systematically replaced. If water main life spans were considered to be 70 years, we should be spending about \$836,000 annually to keep up. The sad fact is, however, over the past few years we have spend less than \$150,000 per year in water main replacements.

Costs associated with the DBCP regulations are also a major impact. The City has worked hard to keep these costs at a minimum while at the same time deliver water which meets strict State and Federal standards. Also, the City has financed the installation of DBCP treatment equipment with a low interest (3.41%) State loan. For more information please read the "DBCP Update" found on Page 1 of this report.

Public Works reports to the City Council have focused on water system deficiencies requiring the most attention. Funding needs discussed at the April 19, 1995 Public Hearing included:

Project or Program	Cost/year	Rate increase*
DBCP Loan payment	\$ 271,000	10%
Operation & Maint. of DBCP Filters	\$ 190,000	7%
System Replacement, O&M Needs	\$ 860,000	31%
Meter Retrofit Program	\$ 660,000	24%
TOTALS:	\$ 1,216,000	72%

*The percent increase was above the rates at that time.

After the April 19, 1995 Public Hearing, City Council raised the water rates as listed below effective June 1, 1995. This raise starts funding a water main replacement program and repays loans used for DBCP cleanup efforts. The old water rate structure was also modified to adjust discrepancies between flat rate and metered customers. Rates for flat rate customers were raised 17.7%. Metered customer's base rates were raised only 8%, however the amount of water formerly included in the base rate was deleted. Charges for the metered water was therefore raised only 4%. If your water meter is larger than needed for your peak water uses, the City may be able to install a smaller meter to reduce your monthly base rate. City Council actions also lowered the water utilities contribution to the General Fund to 17.7% (from 20%).

This is only the third water rate increase since 1976, but more increases will be needed to keep pace with the ever mounting costs due to regulations, inflation and other water system needs. Lodi's water rate structure will again be reviewed for possible changes in the relationship between flat rate and metered customer charges, and for possible changes to encourage water conservation.

If you have any questions concerning these water rates or your meter size please call the City of Lodi Water/Wastewater Office at 333-6740.

City of Lodi Water Rates Effective June 1, 1995

Residential Customers:

Type Customer	Monthly Flat Rate	
	Old	New
Residence-1 Br.	\$ 7.35	\$ 8.65
Residence-2 Br.	\$ 8.82	\$ 10.38
Residence-3 Br.	\$ 10.58	\$ 12.45
Residence-4 Br.	\$ 12.70	\$ 14.95
Residence-5 Br.	\$ 15.24	\$ 17.94
Residence-6 Br.	\$ 18.29	\$ 21.53
Apartment-1 Br.	\$ 6.30	\$ 7.42
Apartment-2 Br.	\$ 7.56	\$ 8.90
Apartment-3 Br.	\$ 9.07	\$ 10.68
Apartment-4 Br.	\$ 10.88	\$ 12.81
Apartment-5 Br.	\$ 13.06	\$ 15.37

Commercial/Industrial:

Flat Rate: Service Size	Monthly Rate	
	Old	New
3/4 inch	\$ 10.58	\$ 12.45
1 inch	\$ 15.87	\$ 18.68
1.5 inch	\$ 21.16	\$ 24.91
2 inch	\$ 26.46	\$ 31.14
3 inch	\$ 37.04	\$ 43.60
4 inch	\$ 47.62	\$ 56.05
6 inch	\$ 68.79	\$ 80.97

Metered: Service Size	Monthly Base Rate *	
	Old	New
3/4 inch	\$ 10.58	\$ 11.43
1 inch	\$ 15.87	\$ 17.14
1.5 inch	\$ 21.16	\$ 22.85
2 inch	\$ 26.46	\$ 28.58
3 inch	\$ 37.04	\$ 40.00
4 inch	\$ 47.62	\$ 51.43
6 inch	\$ 68.79	\$ 74.29
8 inch	\$ 89.96	\$ 97.16

* No longer includes any water allowance.

Metered Water:		Old	New
per 100 Cu. Feet**		\$ 0.285	\$ 0.296
Appx. per 1000 gal		\$ 0.381	\$ 0.396

** Approximately 748 gallons

CITY COUNCIL

DAVID P. WARNER, Mayor
PHILLIP A. PENNINO
Mayor Pro Tempore
RAY G. DAVENPORT
STEPHEN J. MANN
JACK A. SIEGLOCK

CITY OF LODI

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P.O. BOX 3006
LODI, CALIFORNIA 95241-1910
(209) 333-6706
FAX (209) 333-6842

H. DIXON FLYNN
City Manager
JENNIFER M. PERRIN
City Clerk
RANDALL A. HAYS
City Attorney

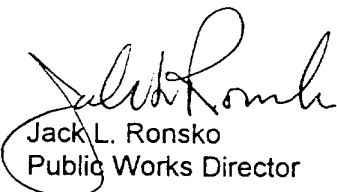
May 30, 1996

Mr. Les Dabritz
Executive Director
Lodi Chamber of Commerce - mailing list attached
P. O. Box 386
Lodi, CA 95241

SUBJECT: Postpone Public Hearing to Consider Increasing Water Rates

Enclosed is a copy of background information on the subject item and an alternate course of action being recommended to the City Council. Both items are on the City Council agenda of Wednesday, June 5, 1996, at 7 p.m. The meeting will be held in the City Council Chamber, Carnegie Forum, 305 West Pine Street. You are welcome to attend.

If you have any questions about the items, please call Richard Prima or me at (209) 333-6706.


Jack L. Ronsko
Public Works Director

JLR/lm

Enclosure

cc: City Clerk
City Engineer

Jennifer - all got
copies of both this
Council Comm. (E)
the "Authorize
Water Utility Analysis
Coun. Comm.
Jmc

Mr. Les Dabritz, Exec. Dir.
Lodi Chamber of Commerce
P. O. Box 386
Lodi, CA 95241

Mr. Denny Perak, Co-Chairman
Lodi Industrial Group
c/o Lodi Chamber of Commerce
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